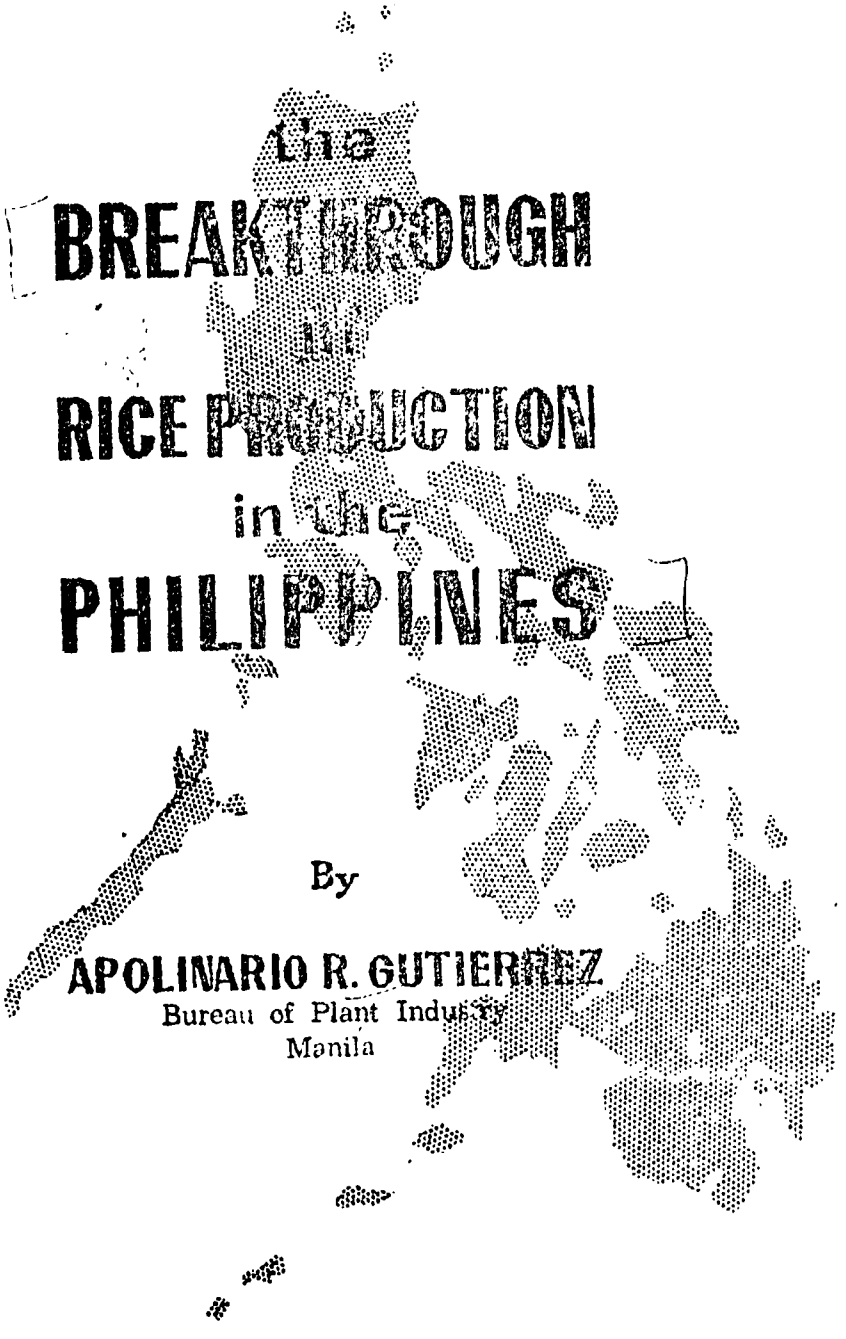

The BREAKTHROUGH in RICE PRODUCTION in the PHILIPPINES

By

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A Thesis presented on August 31, 1970, in partial fulfillment of the requirement for the Degree of Master of Arts in Development Administration at the Graduate Program in Development Administration at the American University of Beirut, Lebanon.

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CHAPTER I

INTRODUCTION

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Rice production dominates Philippine agriculture. More than 40 per cent of the national income derived from agriculture is from rice farming. More than 36 per cent of the total cultivated area and about ten per cent of the total land area of the Philippines is devoted annually to rice production.[1/] About 80 per cent of the total population depends on rice as the source of food.

Despite the economic importance of rice, the Philippines has always been so short in its local production, that the deficit has had to be filled through importation.[2/] The yearly importation caused a dislocation of the economy as it drained the much-needed foreign exchange, which should have been utilized on more productive investments. Foreign exchange is used to finance the importation of capital formation goods and services in order to hasten economic development. This dependence upon importation also dampened the efforts of the private sector in making permanent investment in the rice industry.

The yearly rice importation results from the inability of Philippine agriculture to produce enough food for the fast-growing population. This shortcoming is caused by low productivity and inefficient marketing and distribution, which will be fully discussed in Chapter III.

A reversal of this trend began in 1968, when for the first time, rice and seeds were exported. The Philippines had re-exported 111,654 metric tons of milled rice out of the 298,675 metric tons imported in 1967. About 6,079 metric tons of seeds (about 140,163 cavans) were exported to India, Indonesia, Malaysia, Israel, Pakistan and other countries.[3/] During the crop year 1967-68, there

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1/ - In 1965, the total cultivated areas was 8.245 million hectares out of which 3.200 million hectares were planted with rice and 1.923 million hectares with corn, based on the estimates of the Bureau of Agricultural Economics, Department of Agriculture and Natural Resources, hereinafter cited as DANR.

2/ - Records of the Bureau of Census and Statistics show that as early as 1885, the Philippines has already been importing rice.

3/ - DANR, Rice and Corn Production Coordinating Council, Annual Report for the Fiscal Year 1967-68, dated August 22, 1968, p.17. The Rice and Corn Production Coordinating Council shall be hereinafter cited as RCPCC.

was a surplus of about 11.2 million cavans of milled rice, about 12.0 million cavans of milled rice in 1968-69, and about 12.2 million cavans of milled rice in 1969-70.4/ This surplus makes it essential for the Philippines to adopt an export policy. Exports will not only earn foreign exchange but also bring an age of abundance to the country.

In view of the shift of the status of the Philippines from a country with rice deficit to an exporting country, the main purpose of this study is to analyze the various factors responsible for the rice production breakthrough, which resulted in a surplus production over the normal yearly consumption requirement. Among the factors responsible for the breakthrough are:

(a) the executive and legislative leadership exerted by the President, the Vice President, the Executive Secretary, the members of Congress, and public administrators in all levels of the government organizations; and

(b) the administrative reforms undertaken. The reforms undertaken resulted in a much improved organization and management of the Rice Self-Sufficiency Program which made possible the utilization of the products of research more intensively through the adoption of the high yielding rice varieties, improved farm practices,and more intensive use of production inputs, expansion and renabilitation of irrigation systems and other infrastructures; better implementation of the government price support; integration of the financing institutions for more funds for farm credit; adoption of correct farming practices; training of personnel; and greater participation of the private sector. How these factors influenced increased production and the ultimate attainment of self-sufficiency in rice is discussed in detail in Chapter IV.

The secondary purpose of this study is to consider the so-called second generation problems brought about by the attainment of rice self-sufficiency, in which government policies should be directed towards them, if the achievements so far attained, are to be sustained.

4/ - National Economic Council, Office of Statistical Coordination and Standards, Inter-Agency Reports for 1968-69, and 1969-70, both reports dated August 19, 1969 and 1970.

The National Economic Council and the Office of the Statistical Coordination and Standards shall be hereinafter cited as NEC and OSCAS, respectively.

Second generation problems need to be viewed against a backdrop of the increasing total demand for food and food products due to the steadily increasing population of the Philippines. The demand for food depends on the - rate of growth of population, per capita real income, and the elasticity of demand of agricultural products.5/ The National Economic Council has estimated that population will increase by 14 per cent, and the Gross Domestic Product by 22 per cent, in the next four years. Therefore, at least 14 per cent more rice and corn will be required to feed the increased population at the present level. As real income rises in the next four years, total consumption of meat and meat products, poultry and eggs, milk, fruits and vegetables, and fish will increase more than 14 per cent unless supplies are inadequate. Below are some of the second generation problems specifically related to the rice industry, but having application to the rest of agriculture. The resources of the government are being brought to bear on these problems, as identified below.

Land use and classification. Of the nearly nine million hectares of cultivated land in the Philippines are farmers producing those crops which tend to maximize net income? If some land should be diverted from rice to other crops, what other crops should be grown and where? Farmers will not, and should not, change cropping patterns unless they are reasonably assured it is in their interest to do so. As a first priority, therefore, land needs to be classified as to its best uses. Much is being done, of course, but the progress needs to be accelerated.

Economic intelligence - production, price, and cost statisticians and research results. As decision-making becomes more complex because entrepreneurs have more alternatives to consider, it is natural that additional facts are needed. This need becomes apparent when relative abundance occurs, entailing cost and price relationships.

Much more research is needed to answer the question, "Will it pay?" This aspect of research is often neglected leading farmers to experiment on their own with new crops and new technology, and sometimes with bad results. Farmers will not consider shifting from rice production unless more income is likely. It is, therefore, essential that more information should be made available to enterpreneurs, if development momentum is to be maintained, or accelerated.

5/ - Bruce E. Johnston and John W. Mellor, "The Role of Agriculture in Economic Development" in Gerald M. Meier ed., Leading Issues in Development Economics (New York: Oxford, University Press, 1964) pp. 291-293.

Export policy. Abundance in food adds an important dimension in that exports earn foreign exchange, stabilize prices, and reduce pressure on storage capacity. In fact, it may be in the long term interest of the economy to export some rice, even if it results in a temporary shortage at home.

There is little doubt that competition for foreign markets will increase in the years ahead. This means quality must be emphasized and delivery schedules rigorously observed; otherwise, someone else will capture those markets. An important by-product of stressing quality for export is that quality improvement will occur faster at home. Sooner or later, a grading system becomes inevitable.

Improving the marketing system. Increasing movement of products in commercial trade increases the need for more and better storage and milling facilities, and for additional farm-to-market roads. All of these improvements require large amounts of capital and only the government can provide some of them, such as roads.

Perhaps, the most important problem of all is what government marketing policies will create effective competition so that margins are reasonable. Such policies are essential so that farmers, on the one hand, will receive a fair price and consumers, on the other hand, will pay a reasonable price, in the light of supply-demand conditions.

Further involvement of the private sector.

As agricultural development progresses, it becomes quite evident that the private sector must become more and more involved. Further and deeper interaction of the public and private sectors is needed to induce men to work hard, to save, to invest, to innovate, and to take risks. In order to facilitate the needed interaction, the government must survey and classify resources, initiate research, provide adequate infrastructures, establish training programs, improve the legal framework through the tenure reform, and identify both domestic and foreign markets.

The methodology that has been followed in the preparation of this study is as follows:

1. Study of the growth and structure of the national economy, the agricultural sector and the rice industry.

This will involve intensive use of the national income accounts of the Philippines. The system of national income accounts provides a statistical picture of the position and progress of the economy in a comprehensive framework of integrated

economic information. The national income accounts are compiled solely by the Office of Statistical Coordination and Standards (OSCAS) of the National Economic Council (NEC). The factors or policies that have influenced the growth patterns of the economies will have also to be analyzed. The findings and discussions of this study are presented in Chapter II.

2. Study of the problems affecting the rice industry.

This will involve the use of statistics and information on crop hectarage, productivity, importation, absorption, prices, population, and other relevant data, already established by the Department of Agriculture and Natural Resources, the Office of Statistical Coordination and Standards, the Bureau of Census and Statistics, and Golay and Goodstein's statistical compilation in their study entitled, Rice and People in 1990. Results and discussions of this analysis are presented in Chapter III.

3. Determination of the factors responsible for the rice production breakthrough.

This will involve the appraisal of the organization and management of the Rice Self-Sufficiency Program, its activities and accomplishments, and the development policies and strategies undertaken in bringing about increased rice production and the ultimate attainment of self-sufficiency. The impact of the various factors employed on the overall national production will correspondingly be determined. The results of the appraisal are presented in Chapter IV.

The study and analysis of the breakthrough in rice production will be focused primarily on the public sector. Emphasis will be placed on the political and administrative institutions concerned with the changing of attitudes, mobilizing resources, building of infrastructures, and providing services for nation building and socio-economic development.6/ There are 19 government agencies belonging to different branches of the service working on the promotion of rice production, marketing and distribution, and financing. Their activities are coordinated by the Rice and Corn Production Coordinating Council.7/

6/ - See Milton J. Esman, "The Politics of Development Administration" in John D. Montgomery and Williams J. Siffin eds., Approaches to Development: Politics, Administration and Change (New York: McGraw-Hill Book Co., 1966), pp. 59-112.

7/ - The Rice and Corn Production Coordinating Council is the highest government body created by law, to direct and manage the implementation of the Rice and Corn Production Program.

In undertaking the foregoing topics, the author regretfully faced the following limitations and obstacles: lack of adequate materials and information for a comprehensive coverage of the subject, and lack of time to analyze, evaluate and present the findings and observations. Also, because of distance and time limitations, field investigations and interviewsto substantiate the study are impossible.

The author also regrets the constraints which preclude an analysis of the rice industry as a "system" in relation to the agricultural economy and the economy as a whole. Analysis of the subject would involve the concept of agri-business.8/ Functionally, agri-business is the sum-total of all operations involved in the manufacture of farm supplies, production on the farm, and storage, processing and distribution of farm commodities, and items made from them, and quantifying the demand for their end-use. Future studies should be directed to this subject as source of valuable information for decision-making.

Finally, for reasons indicated above, it is impossible to prepare comprehensive proposals designed to sustain the breakthrough, instead what will be done is to point out the importance in undertaking such proposals.

8/ - John J. Devis, "From Agriculture to Agribusiness" Harvard Business Review 34, No. 1 (January-February, 1956), pp. 107-115.

CHAPTER II

AGRICULTURAL DEVELOPMENT PERSPECTIVE

The purpose of this chapter is to analyze and present briefly the growth and structures of the national economy, the agricultural sector, and the rice industry as well as the development strategies undertaken to stimulate economic growth from independence (1946) to the present.

Kindleberger[1], while admitting that growth and development are used synonymously in economic discussions, makes a careful distinction between the two words. He defines growth as more output and more efficiency, which means, an increase in output per unit of input, while economic development implies not only more output but changes in the technical and institutional arrangement by which it is produced. He further explains that development is measured in terms of national income. In relation to population or labor force national income can be expressed as average income, or per capita income.

In illustrating the growth and structure of the Philippine economy, the gross national product (GNP), national income (NI), and the net domestic product (NDP) will be used extensively using the National Income Accounts of the Philippines from 1946-1968.[2]

Growth and Structure of the National Economy

The Philippines, as many other Asian countries, is an economy in transition.[3] When it gained independence in 1946, it started with sever handicaps: the economy was in a shambles, and production was disorganized. This was the result of the ravages of the Second World War. Despite this, the Philippines has shown initial elements of strength: a population with literacy rate of 75 per cent[4] and a large reservoir of trained manpower

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1/ Charles P. Kindleberger, Economic Development (New York: McGraw-Hill Book Co., 1965), pp. 1-15.

2/ The system of national income accounting summarizes, in generally accepted determinants of economic activity, the countless transactions involved in the production and distribution of the national output. The compilation of the national income account follows the conceptual framework recommended by the United Nations.

3/ For more information on the structure of transitional societies, see, Milton J. Esman, "Politics of Development Administration" in Aproaches to Development: Politics, Administration and Change, edited by John D. Montgomery and William J. Siffin (New York: McGraw-Hill Book Co., 1966), pp.65-71.

4/ L. A. Paulino, "Implementation Problems of Agricultural Plans in the Philippines" Philippine Agricultural Situation VI, No. 4, (October-December, 1967), p. 3.

with a high technical aptitude. This was the payoff of American tutelage, which emphasized education and public health. 5/ American teachers, technicians, and specialists, together with Filipino educators and public administrators, worked hand-in-hand, paving the road to development.

Over the last two decades (1946-68), GNP has increased by more than five times its initial value of ₱5, million in 1947 to ₱28,376 million in 1968 (at current prices; see Table A 1, page 15). Part of this increase was due to increased prices. After allowing for price effects, however, the increase was still more than four times its initial value of ₱4,166 million in 1947 to ₱17,672 million in 1968 at constant 1955 prices. Roughly, GNP has more than doubled every ten years.

As the economy forged ahead, the population also increased, almost doubling itself over the same period from 18.78 million in 1947 to 35.88 million in 1968. After allowing for the rapid population growth and price effects, real per capita GNP was observed to have more than doubled itself over the decades from ₱222 in 1947 to ₱494 (at constant 1955 prices; see Table A2, page 16). Thus per capita GNP increased at the rate of only half as much as the growth of the nation's output in real terms.

Chart 1 (See annexed in page 18) shows in a nutshell the growth pattern of the national economy from independende in 1946 to 1968. The current GNP has grown at an annual average of 6.6 per cent from 1947-49, 7.3 per cent from 1950-1955, 8.0 per cent from 1956 to 1961, and 10.4 per cent from 1952-68. The average annual growth rate of population has outpaced the growth of real capita GNP starting in 1955 to 1961 by an annual average of 1.4 per cent, and by 1.2 per cent from 1962 to 1968.

Considerable changes in the economic structure also occured over the period (see Chart 2 annexed in page 19) as shown in the sharing in the net domestic product. The share of the agriculture sector decreased from 45.3 per cent of the NDP in 1946 to 34.8 percent in 1955, and finally to 31.3 percent in 1968. The manufacturing sector had grown to a virgorous share of 5.5 per cent of the NDP in 1946 to 15.3 percent in 1955, and still increased to 17.3 percent in 1968. Mining, which was the hardest hit sector during the Second World War started from negligible share in 1946 to 1.4 per dent share of the NDP in 1955 to 1.9 per cent in 1968.

For the calendar years 1966 to 1968, (see Table A 3, page 17) grown from ₱19,705 million in 19566 to ₱21,796 million in 1967, and ₱23,958 million in 1968, or an annual growth rates of 10.6 and 9.9 percent respectively. Of the NDP of ₱23,958 million in 1968, ₱8,245 million was contributed by the agricuture, fishery and forestry sectors, which have also grown at an annual rate of 14.2 and 12.9 percent from 1966 to 1968, respectively.

5/ Alden Cutshall The Philippines: Nation of Islands (Princeton: D. Van Nostrand Co., Inc., 1964), pp. 19-23, also Gerald M. Meier Leading Issued in Development Economics (New York: Oxford University Press, 1964), pp. 266-284.

Of the ₱8,245 million contributed by agriculture, fishery and forestry groups, ₱4,098 million or 48.4 per cent was contributed by agricultural crops; ₱1,712 million by livestock and poultry or 20.2 per cent; ₱840 million fisheries or 9.9 per cent; and ₱1,820 million by forestry and logging or 21.5 per cent. Of the ₱4,098 million contributed by agricultural crops, the share of palay was ₱1,652 million or 40.3 per cent and all other crops by ₱2,446 million or ₱59.7 per cent.

Economic Policies for Growth

It would be difficult to assert that any single factor accounts for Philippine economic growth during the 1946-68 period. The country had a foundation of infrastructure, political institutions, and personnel upon which to build, and population with a high rate of literacy and technical aptitude. Institutional changes, such as the rise of financial institutions and corporate enterprises, have paved the road to development. The Philippine Government, operating within the framework of a free enterprise society, has had an important role to play in stimulating economic growth. Among the important policies and factors responsible for the economic growth of the Philippines were the following:

1. Material and technical assistance given by the United States in accordance with the following laws: 6/

(a) the Philippine Rehabilitation Act (Public Law 370), signed by President Truman on April 30, 1946, providing $400 million for properties destroyed or damaged as a result of actual warfare; $100 million worth of surplus properties consisting of military vehicles, small naval vessels and landing craft, airplanes, earth-moving equipment, clothing and medical supplies; and $120 million for rehabilitation and training projects and programs to provide technical experts for key industries;

(b) the Philippine Trade Act(Public Law 37), provided for free trade between the Philippines and the United States from 1946 to 1954 (later extended until 1959), after which a five per cent annual increase in the tariff was to be imposed until 1974. In addition to the Act, the Philippines enjoyed an absolute quota on sugar, Manila hemp, cigars, scrap and filler tobacco, coconut oil, pearl buttons, and rice, 7/;

6/ Alden Gutshall, op. cit., pp. 21-23.

7/ The privilege of the Philippines to export rice to United States was never taken advantage of.

(c) the Philippine Military Assistance Agreement, enacted on March 20, 1957, provided funds, materials and guidance by American personnel (Joint United States Military Advisory Group or JUSMAG) for the training and development of Philippine military forces. Associated with this Agreement is the Bases Agreement Act which authorized the United States to operate and maintain military bases in the Philippines.

2. Import and foreign exchange controls. During the 1946-49 period, no import or foreign exchange controls were imposed as this was the period of reconstruction and rehabilitation following the war. Financing of imports was furnished by the use of international reserves, which at that time were adequate.8/

From 1950-61, import and foreign exchange controls were instituted with the objective of stimulating and protecting the growth of local industries and of increasing and conserving foreign exchange. During this period, the manufacturing sector received numerous forms of encouragement such as import and foreign exchange privileges, tax exemption, liberal credit, tariff protection and barter privileges. All these policies accelerated the growth rate of the manufacturing sector at an average of 9.4 per cent year during the duration of the controls. One important effect of the controls was the response of enterprises in setting up various manufacturing plants for drugs, cosmetics, tires, oil and fuels, food processing and packaging, assembling of appliances and equipment, and so forth. Another indirect incentive was the protection of "new and necessary industries" by granting tax holidays, tax free improtation of raw materials, and liberal credit.9/ To curb the tendency towards inflation, the Central Bank of the Philippines established priority fields to which banks were to extend credit. 10/ During the period there was also a build-up of financial institutions, such as the rural banking system and private development banks. The important financial institutions created during the period

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8/ NEC, OSCAS, The Statistical Reporter XIII, No. 2 (April-June, 1969), p. 7.

9/ Frank H. Golay, The Philippines: Public Policy and National Economic Development (Ithaca, New York: Cornell University Press, 1963), pp. 248-256.

10/ Ibid., pp. 235-239.

Ibid

were the Development Bank of the Philippines, the Government Service Insurance System, the Social Security System, the Agricultural Credit and Cooperative Financing Administration (now the Agricultural Credit Administration), and the rural banking system. The banking system extended a wide variety of financing for agricultural, industrial, and mining purposes, as well as for housing and construction. During the period of controls, however, agriculture experienced a mere 3.7 per cent growth rate annually because of unfavorable weather conditions and other calamities. 11/

During the 1962-68 period, import control was lifted but foreign exchange control was maintained in order to conserve the dollar reserves of the country for more productive investments. This period was characterized by a brief surge in the rate of expansion of physical production of goods and services, followed by a considerable slackening. Real GNP accelerated from a growth of 6.1 per cent to 7.4 per cent in 1963, declined to 2.5 per cent in 1964, recovered to 5.5 per cent in 1965, and leveled of at 6.0 per cent from 1966 to 1968, (see Chart 1). The decontrol period brought difficulties to the manufacturing sector because of the lifting of the protections and privileges of industries. These difficulties were brought about by the increased need for capital and operating requirements, tight credit policy, inflow of manufactured goods from abroad, and smuggling. Local industries, as a consequence of these difficulties, had to reduce prices in order to compit with foreign goods. 12/

3. Government Planning.13/ Government planning has had a long history beginning in 1935, with the establishment of the National Economic Council. Under the Reorganization Plan of 1955, the National Economic Council was given the responsibility of advising the President on matters concerning the economy, of formulating definite and consistent national economic policies, and of preparing comprehensive socio-economic development programs. The Presidential Economic Staff (formerly the Program Implementation Agency) was created with the primary aim of coordinating and expediting implementation of socio-economic

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11/ NEC, OSCAS, op. cit., p. 8.

12/ Loc. cit., p. 8.

13/ Albert Waterston, Development Planning: Lessons of Experience (Maryland; John Hopkins Press, 1968), p. 30; Philippines, Reorganization Plan No. 10, July 1, 1955; and United Nations, ECAFE, Economic Bulletin for Asia and the Far East XX, No. 1 (June, 1969), p. 12

development programs, and of translating the national goals set by the National Economic Council into a "package" of action projects for implementation by the government executive agencies. The President has also given the Presidential Economic Staff the responsibility for allocating available funds for the implementation of approved projects. Another agency responsible for planning is the Board of Investments, whose main duties are to assign investment priorities in agriculture, manufacturing, and mining industries; to provide incentives consisting of assistance in obtaining foreign exchange allocation, long term financing, and importation of equipment; to conduct feasibility studies to extend technical assistance to industries. The Board also performs some supervisory functions over industries covered by the Investment Incentive Act, especially in the enforcement of laws, rules and regulations.

Non-economic Policies: The Political and Social Setting

The Philippines has not experienced problems of national integration and there have been no clashes among linguistic, religious or communal groups; so efforts have been concentrated on economic development. There has also been political stability, and the transfer of political power has not been accompanied by serious disorders. One thing, however, is evident, and that is the growing feeling of nationalism.

Economic Obstacles

Notwithstanding the seemingly impressive growth of the national economy, the Philippines faced some economic obstacles. Foremost among them are the balance of trade difficulty, and the lack of diversification and concentration of exports. The exports of goods and services have not appreciably increased from 1946 to 1968, which averaged 15.7 per cent of the GNP.[14/] The five exports of the country consisting of coconut and coconut preparation, sugar, copper concentrates, abaca, logs and lumber account for 86 per cent of the total exports. For instance, the exports of the Philippines in 1967 amounted to U. S. $203.3 million while the imports amounted to U.S. $293.0 million. From 1963 to 1968, the Philippines suffered from a monthly trade deficit ranging from U.S. $10.5 million to U.S.$35.9 million. From 1963 to 1968, the Philippines suffered from a monthly trade

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14/ NEC, OSCAS, op. cit., Tables H and I, pp. 61-62.

deficit ranging from U.S. $10.5 million to U.S. $35.9 million. Philippine exports are concentrated in few countries; for instance in 1967, 42 per cent of the exports were made to the ECAFE region of which Japan received 33 per cent, Western Europe including the United Kingdom received 12 per cent, and the United States 43 per cent. Only seven per cent of the exports went to the Middle East and South America. 15/

Role of Agriculture in Economic Development

Most underdeveloped countries, including the Philippines, place important emphasis on the development of agriculture for the following reasons: 16/

(1) Economic development is characterized by a substantial increase in the demand for agricultural products, and failure to expand food supplies in pace with the growth of demand can seriously impede economic growth.

(2) Expansion of exports of agricultural products may be one of the most promising means of increasing income and foreign exchange earnings, particularly in the earlier stages of development.

(3) The labor force for manufacturing and other expanding sectors of the economy must be drawn from agriculture.

(4) Agriculture, as the dominant sector of an underdeveloped economy, can and should make a net contribution to the capital required for overhead investment and expansion of secondary industry.

(5) Increasing net cash incomes of the farm population may be important as a stimulus to industrial expansion.

Specifically, the Philippine Government emphasizes the development of agriculture in its Four Year Economic Program for the Fiscal Year 1967-1970, for the following reasons: 17/

(1) Population is rising at a rapid rate, and maintenance of present welfare levels, let alone their improvements, requires a steep increase in food production;

15/ United Nations, ECAFE, op. cit., pp. 106-112.

16/ Bruce F. Johnson and John W. Mellor, "The Role of Agriculture in Economic Development" cited by Gerald M. Meier ed., Leading Issues in Development Economics (New York: Oxford University Press, 1964), p. 291., also Charles P. Kindleberger, op. cit., pp. 218-219.

17/ - Philippines, Four Year Economic Program for Fiscal Years 1967-1970 (Manila: Bureau of Printing, September, 1967), p. 12.

(2) agriculture continues to be main dollar-earner and a major source of capital formation; and

(3) employment and welfare levels are lowest in the area and thus government action is most necessary in the agricultural sector.

The relative share of the rice industry in the net domestic product in relation to the other primary industries in shown in Chart.3.

TABLE A 1

PHILIPPINES: ANNUAL GROSS NATIONAL PRODUCT, NATIONAL INCOME, AND POPULATION WITH THEIR GROWTH RATES FROM 1946 to 1968
(At current prices)

YEAR	Nat'l Gross Product		National Income		Population	
	Total Value (Million ₱)	Percent Increase	Total Value (Million ₱)	Percent Increase	Number (Million)	Percent Increase
1946	4,351	-	3,905	-	18,430	-
1947	5,266	21.0	4,703	20.4	18,781	1.9
1948	5,471	3.9	4,812	2.3	19,139	1.9
1949	5,953	8.8	5,273	9.6	19,674	2.8
1950	6,371	7.0	5,656	7.8	20,275	3.1
1951	7,071	11.0	6,184	9.3	20,894	3.1
1952	7,434	5.1	6,454	4.4	21,533	3.1
1953	7,767	5.8	6,871	6.5	22,191	3.1
1954	8,176	3.9	7,143	4.0	22,868	3.1
1955	8,801	7.6	7,687	7.6	23,568	3.1
1956	9,687	10.1	8,420	9.5	24,288	3.1
1957	10,566	9.1	9,215	9.4	25,030	3.1
1958	11,211	6.1	9,837	6.7	25,795	3.1
1959	12,188	8.7	10,709	8.9	26.584	3.1
1960	13,000	6.7	11,370	6.2	27.410	3.1
1961	14,209	9.3	12.334	8.5	28.313	3.3
1962	15,721	10.6	13,477	9.3	29,257	3.1
1963	18,135	15.4	15,545	15.3	30,241	3.4
1964	19,459	7.3	16,506	6.2	31,270	3.4
1965	21,070	8.3	17,794	7.8	32,345	3.4
1966	23,251	10.4	19,562	9.9	33,477	3.5
1967	25,803	11.0	21,499	9.9	34,656	3.5
1968	28,376	10.0	23,575	9.7	35,883	3.5

Source: NEC, OSCAS, The Statistical Reporter XXIII No. 2 (April-June, 1969), Table A, p. 58 for 1946-65 and Table a, p. 2 for 1966-68.

TABLE A 2

PER CAPITA: GROSS NATIONAL PRODUCT, NATIONAL INCOME PERSONAL CONSUMPTION EXPENDITURE, PHILIPPINES FY 1946-68
(At constant 1955 prices)

	Gross National Product	National Income	Personal Consumption
1946	160	146	135
1947	222	197	193
1948	257	227	216
1949	279	243	244
1950	294	259	247
1951	310	274	259
1952	325	286	273
1958	342	301	297
1954	360	316	315
1955	373	326	327
1956	389	339	331
1957	399	349	334
1958	402	354	337
1959	417	367	340
1960	410	360	343
1961	422	368	346
1962	434	376	349
1963	451	391	350
1964	447	384	351
1965	456	391	352
1966	467	399	353
1967	478	406	356
1968	492	413	366

Source: NEC, OSCAS, op. cit., Table 12, p. 54 and p. 28.

TABLE A 3

PHILIPPINES: NET DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRIAL ORIGIN, CY 1966 to 1968

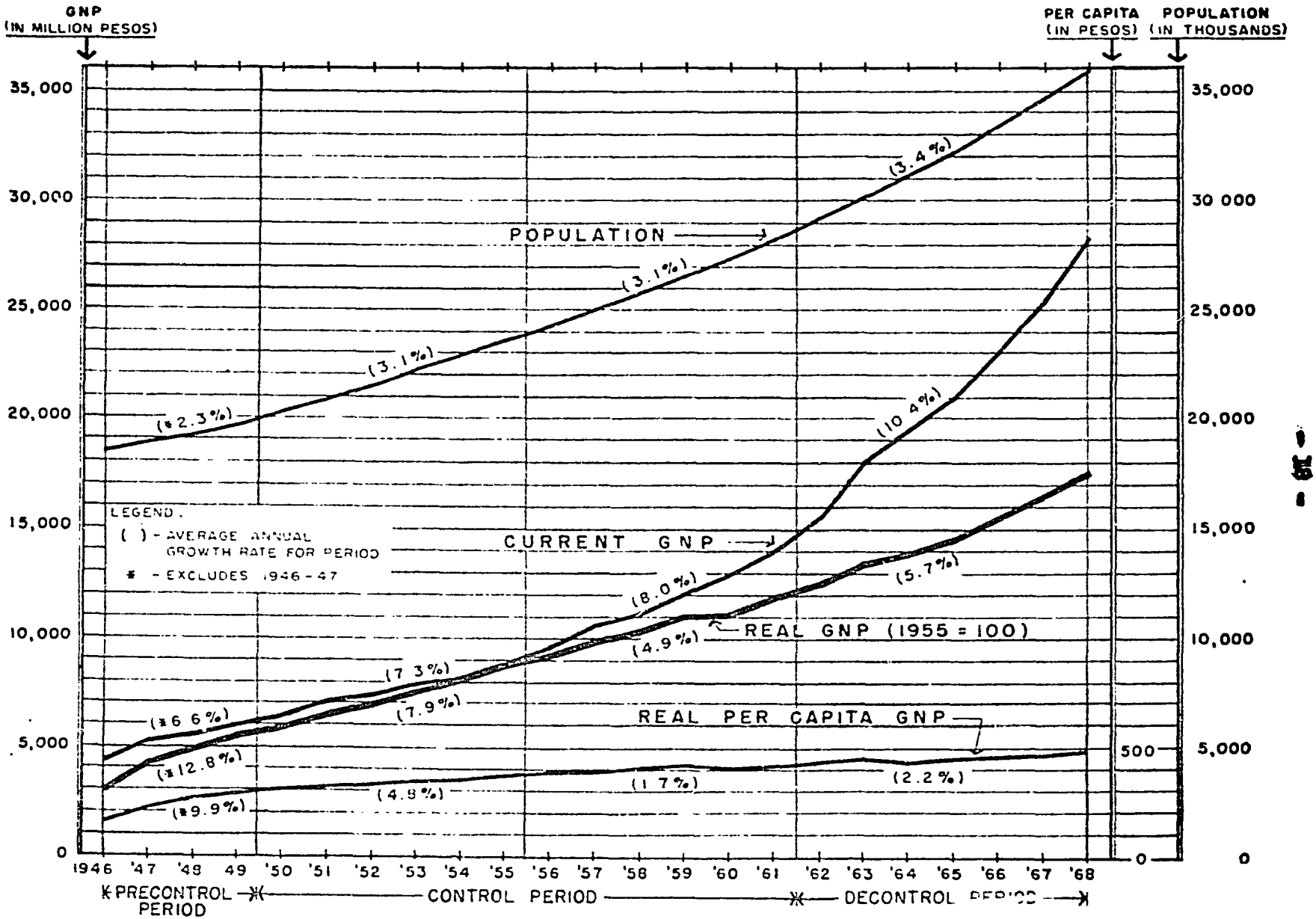
Industrial Sector	1966 Value (Million ₱)	1967 Value (Million ₱)	1967 Percent Increase	1968 Value (Million ₱)	1968 Percent Increase	Percentage Distribution 1966	1967	1968
A. Agriculture, Fishery & forestry groups	6,393	7,301	14.2	8,245	12.9	32.4	33.5	34.5
1. Agricultural crops	3,398	3,739	10.0	4,098	9.6	51.7	49.9	48.4
Palay	1,290	1,458	13.0	1,652	13.3	38.0	39.0	40.3
Corn	319	356	11.6	429	20.5	9.4	9.5	10.5
All other crops	1,789	1,925	10,3	2,017	10.9	52.6	51.5	49.2
2. Livestock & Poultry	1,406	1,547	10.0	1,712	10.7	9.3	9.5	9.9
3. Fishery	611	714	16.9	840	17.6	21.4	20.6	20.2
4. Forestry & Logging	1,153	1,501	30.2	1,820	21.3	17.6	20.6	21.5
B. Mining and Quarrying	311	346	11.3	427	23.4	1.6	1.6	1.8
C. Manufacturing	3,472	3,773	8.7	4,147	9.9	17.6	17.3	17.3
D. Construction	759	812	7.0	871	7.3	3.9	3.7	3.6
E. Transportation, Communication & Utilities	865	925	6.9	1,003	8.4	4.4	4.2	4.2
F. Commerce	3,018	3,281	8.7	3,465	5.6	15.3	15.1	14.5
G. Services	4,887	5,358	9.6	5,800	8.2	24.8	24.6	24.2
NET DOMESTIC PRODUCT	19,705	21,796	10.6	23,958	9.9	100.0	100.0	100.0
NATIONAL INCOME	19,562	21,499	9.9	23,575	9.7	99.3	98.6	98.4

Source: NEC, OSCAS, op. cit., Tables 2, 3, 4, & 5, pp. 33-34..

CHART 1

REAL AND CURRENT GNP, POPULATION AND REAL PER CAPITA GNP

CY 1946 to 1968

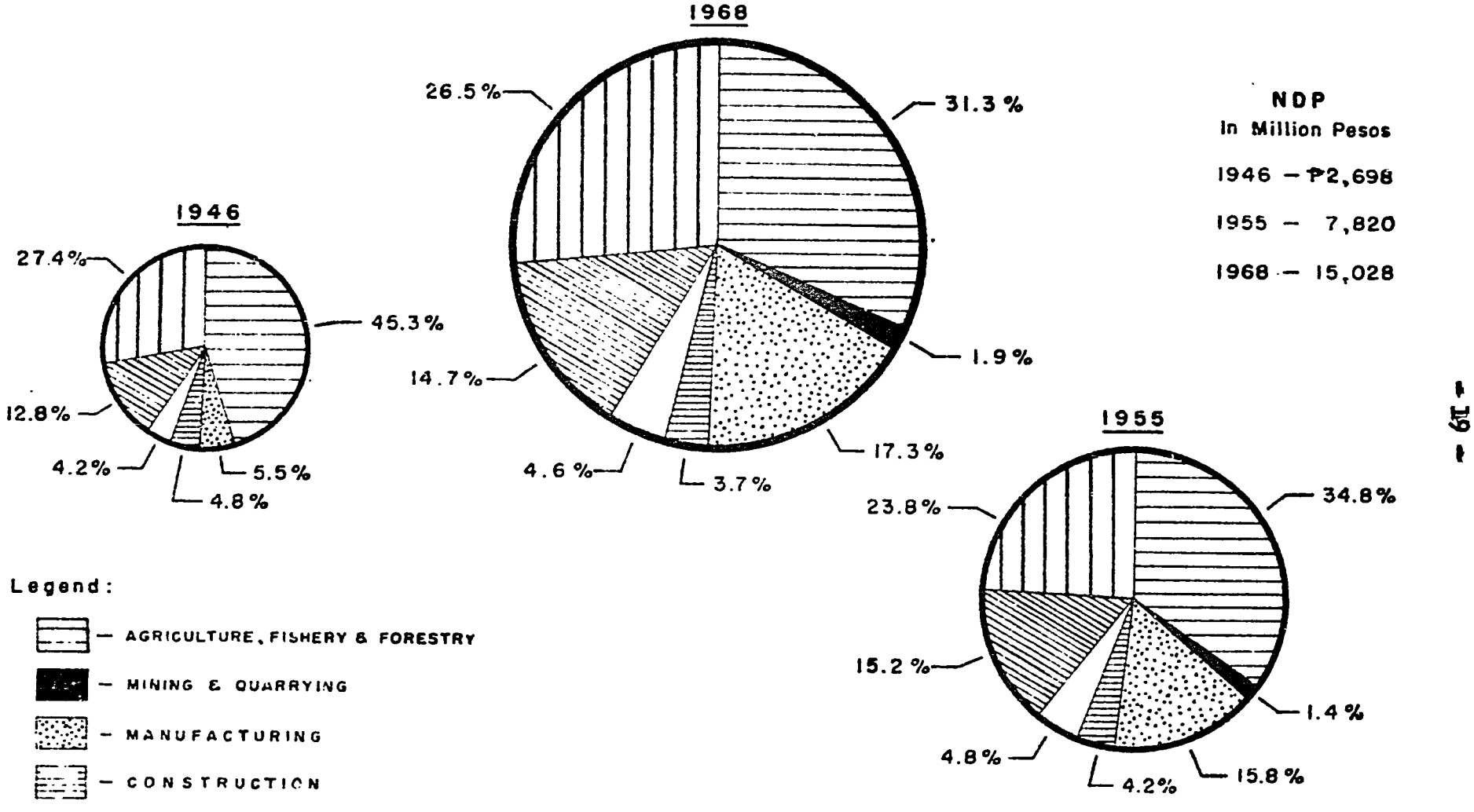


Source: National Economic Council, Office of Statistical Coordination And Standards, The Statistical Reporter XIII (April-June, 196) No.2, Table A, p.5.

CHART 2

INDUSTRIAL DISTRIBUTION OF NET DOMESTIC PRODUCT AT CONSTANT 1955 PRICES, CY 1946, 1955 & 1968

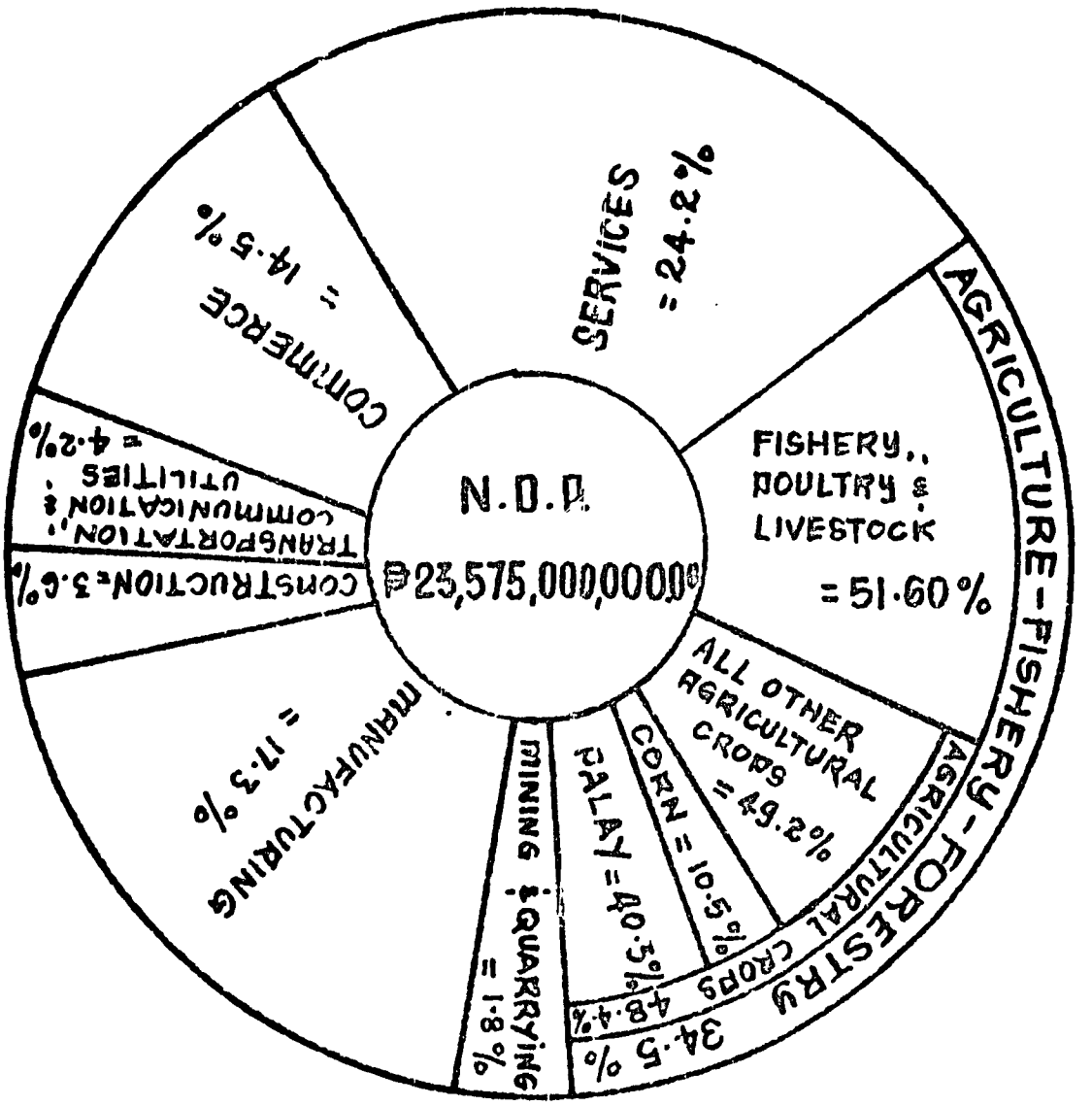
(In Percent)



Source: Ibid., p. 5.

CHART 3

SHARE OF THE RICE INDUSTRY IN THE NET DOMESTIC PRODUCT IN RELATION TO OTHER PRIMARY INDUSTRIES, 1968



CHAPTER III

RICE PROBLEMS

This chapter has two objectives. The first is to analyze the problems affecting the rice industry with the focus on the public sector. The second objective is to analyze the consequences of the rice problems on family income, on the national income, and on the health of the nation.

Philippine agriculture is dominated by the rice industry. Of the 8.3 million hectares devoted annually to food and commercial crops production, about 3.2 million hectares or 38 per cent are planted with rice. The rice areas also covers about eleven per cent of the 29.7 million hectares which is the total land area of the country. Table 1 in the next page shows the rice area in relation to the total cultivated area and to other areas planted with corn, other food crops, and to commercial crops from 1951 to 1967.

Latest estimates also showed that about six million people out of the estimated 10.5 labor force of the country were engaged in the rice industry.[1] About 80 per cent of total population eat rice. The apparent absorption per capita of milled rice ranged from 75.6 kilos to 91.9 kilos per year per person from 1946 to 1965.[2]

1/DANR, Bureau of Agricultural Economics, The Philippine Agricultural Situation, VI, No. 4 (October-December 1967), p. 44

2/Frank H. Golay and Marvin E. Goodstein, Rice and People in 1990 (Manila: US AID, 1967), p. 24

TABLE I

PHILIPPINES: AREA UNDER CULTIVATION, 1951-65 and 1966-67[a]
(in Thousand hectares)

Crop Year or Average	Total Area Under Cultivation	Area Planted			
		Rice	Corn	Other Food Crops	Commercial Crops
1951-55	5,899	2,535	1,121	704	1,539
1955-56	6,817	2,743	1,675	865	1,541
1956-57	7,004	2,768	1,787	905	1,555
1957-58	7,910	3,154	1,381	935	1,526
1958-59	7,910	3,329	2,107	915	1,547
1959-60	7,596	3,307	1,846	856	1,587
1960-61	7,834	3,198	2,046	875	1,716
1961-62	7,919	3,179	2,016	878	1,847
1962-63	7,934	3,161	1,950	869	1,957
1963-64	7,956	3,008	1,898	883	2,080
1964-65	8,245	3,200	1,923	872	2,256
1966-67	8,296	3,109	2,106	847	2,234

a/ Frank H. Golay and Marvin E. Goodstein, Rice and People in 1990 (Manila: US AID, 1967, Table 8 for 1951-65. The 1966-67 figures were based on the estimates of the Bureau of Agricultural Economics.

The 1965 survey on household expenditures indicated that rice represented 15 per cent of the total family expenditures, and about 27 per cent of the total expenditures on food. Compared to the expenditures on cereals, rice alone is 69 per cent.3/

Despite the economic importance of rice, the rice industry has been beset with many problems that have a bearing on the political, social and administrative conditions in the country. Political candidates used to harp on the failure of the administration to promote increased rice production. What happened in 1960 was a good example. At that time housewives, especially in the City of Manila and its suburbs did not have enough rice to cook for their families. People have to line in "pila" or

"lista" in order to get a day's ration of rice from government distributing centers.[4]

In view of this, government programs placed primary emphasis on the promotion of increased production and the ultimate attainment of self-sufficiency. However, the Philippines did not attain self-sufficiency until 1968, in view of the numerous problems affecting the rice industry. From as early as 1885, the Philippines had been importing rice to fill the gap between consumption and domestic production. During the decades 1910-19, the Philippines imported milled rice equal to 33 per cent of estimated domestic production during the first five years of the decade and to 22 per cent during the second five years. During the decade of the 1920's expansion in the area per capita planted to rice accelerated and the dependence upon importation declined rapidly. Over this decade, imports averaged 3.3 per cent of the estimated domestic production. In the 1930's the dependence upon importation averaged 2.5 per cent of the estimated domestic production. Due to the disruption of production during the Second World War and the continued increase in population, the dependence upon importation continued. During the 1946-50 period, rice importation averaged 5.5 per cent of the estimated production; 3.3 per cent from 1951-55; 3.4 per cent during 1956-60; and 8.0 per cent during 1960-65. The highest importation amounting to about 600,000 metric tons of milled rice or equivalent to 25 per cent of the estimated domestic production was in 1964-1965. The amount of production, importation and consumption requirement for rice from 1946 to 1965 is shown in Table A 4 in page 55 of this chapter.

Why has the Philippines persistently depended upon importation? What are the so-called rice problems, and what are their causes? Answers to these questions from the focus of this chapter.

3/ NEC, OSCAS, The Statistical Reporter, XII, No. 4 (October-December, 1968), pp. 23-24.

4/ "Pila is the queuing up for a ration of government-subsidized imported rice. "Lista" is the alternative method of registering citizens, who wish to obtain their rice supply from the same source as the "pila".

The Problems

There are two problems affecting the rice industry, and these are low productivity, and inefficient distribution. On the production side, the Philippines average rice production is believed to be one of the lowest in the world. The average rice production in 1968 was 32.94 cavans per hectare, and the average for the last ten years (1959-68) was 28 cavans per hectare. The area planted with rice and the production from 1959 to 1968 is shown in Table 2 below.

On the marketing side, the problems are how to efficiently distribute rice and equalize the supply in various parts of the country. Marketing in the Philippines is difficult in the sense that it has unique natural and physical barriers to overcome. The Philippines is composed of 7,100 islands which makes mobility rather difficult. There are four types of climate which makes production seasonal. The Philippines is also in the typhoon belt. Besides the natural barriers, marketing is affected by lack of transportation, communication, and storage facilities. Shipment of goods is fairly easy from Manila to any of the islands but not from one island to another because of lack of bottoms.

TABLE 2

PHILIPPINES: PALAY AREA PLANTED, PRODUCTION AND AVERAGE YIELD PER HECTARE, 1959-68

Year	Area Planted in Million Hectares	Production in Million Cavans Palay	Average Production Per Hectare
1959	3.3	83.4	25.1
1960	3.3	85.0	25.7
1961	3.2	88.2	26.3
1962	3.2	88.9	27.9
1963	3.2	90.2	28.5
1964	3.1	87.4	28.3
1965	3.2	92.7	28.4
1966	3.2	92.6	30.0
1967	3.1	97.7	31.6
1968	3.3	108.8	32.9

SOURCE: Based on the estimates of the Bureau of Agri'l Economics

Compared with some selected countries in Asia, the Philippine average rice production is one of the lowest as shown in Table 3 below.

TABLE 3

COMPARISON OF PER HECTARE YIELD OF SELECTED AGRICULTURAL PRODUCTS IN ASIA[a]
(in metric tons)

Country	Paddy	Wheat	All	Potato
Japan	4.56	2.26	3.83	15.60
Hongkong	3.26		3.39	
Taiwan	2.92	1.75	2.85	7.20
Korea, Rep. of	2.77	0.86	1.82	
Mainland China	2.64	0.83	1.39	7.63
Malaya	2.20		2.20	
North Borneo	1.91		1.94	
Indonesia	1.72		1.52	
Vietnam, Rep. of	1.65			
Burma	1.54	0.29	1.52	
Pakistan	1.45	0.77	1.13	
Thailand	1.37		1.38	
India	1.36	0.75	0.85	6.85
Ceylon	1.25		1.48	1.53
Philippines	1.26		0.92	3.24
Cambodia	1.08		1.08	3.24

a/ Shigeru Ishikawa, Economic Development in Asian Perspective (Tokyo: Kinokuniya Bookstore, Co., Ltd., 1967) Table 2-2, p. 70. The per hectare yields were an average for 1955-56 to 1960-61 except the Philippines which was based on the average for 1959-68.

Overland movement of goods is affected by bad roads, especially in the Mindanao and Cagayan Valley areas. There also exists such inadequate warehousing and storage facilities that, at times, the rice harvest is just left in the fields at the mercy of nature. Also, much of the harvest is lost because of a lack of mechanical driers. Sun drying is the

usual practice and consequently, drying time is longer, more expensive, and the moisture content of the produce is not uniform. The grading system is arbitary, in the sense that there are only two grades of palay, the "ordinary" and the "fancy" commonly used; but it is the middlemen that decide on the grade and price. Most of the rice mills are old and of the huller or kiskisan type, characterized by low recovery. Lastly, market information as to the supply-demand and the price situation are still not commendable, although recently, the agricultural marketing news service has been organized.

The details of rice and paddy marketing will be discussed at a later part of this chapter.

Basic Causes of the Rice Problems

There are two principal versions of the rice problems: is the layman's version, and the other is scientific, based on a critical analysis of the various factors that cause the rice problems.

Layman's version of the Rice Problems.

Among the layman's version of the rice problems, merated by Umali, in his analysis of the rice problems, are as follows:5/

1. The EEA operations. It has been said that the programof the Emergency Employment Administration (EEA) has lured many able bodied farmers away from their farms by its offer of ₱4.00 as daily wage, an amount which is hard to earn by farming. The exodus of manpower from rice production activities means, to a certain degree, a decrease in rice production.

2. Smuggling of rice to other countries. Some people say that large quantities of rice are smuggled out of the country and into the rice-deficient countries of Southeast Asia, in exchange for blue seal cigarettes, fancy jewelry, and other items of conspicuous consumption.

3. Alien manipulation of the trade. Through their powerful organizations, aliens manipulate the market so as to render indeffective the government's program of nationalizing the

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5/ D.L. Umali, "The Rice Problem and Public Policy" Philippine Journal of Public Administration, IX, No. 1 (January 1965), pp. 43-49.

rice and corn industry. Then they could claim that since Filipinos cannot do the work, the aliens should no longer be excluded from the rice and corn industry.

4. Conversion of rice lands to other uses. It is claimed that many rice farms have been converted to sugar cane and coconut farms because these perennial crops are not covered by the restrictions imposed by the Agricultural Land Reform Code and because of the good price of both export crops. Other rice lands have been subdivided into residential and industrial lots to take advantage of the rising land values in and around urban areas.

5. Low income . A popular belief is that rice consumption among the low income (or no income) groups tends to be very much higher than among the high income people. Poor people, they say, eat more rice; the Forbes Park residents (the wealthy) eat more of everything except rice.

6. Lack of electricity . A majority of Philippine communities still do not have electricity and people there naturally go to bed early. The resultant high rate of population growth naturally add to the already large number of rice consumers.

7. Droughts and typhoons - Droughts and typhoons are the most prevalent hazards of rice farming. During the last two years, people in the rice producting areas, suffered from severe drought and typhoons. These calamities caused a considerable decrease in the production of rice and other crops,

8. Politics. It has been observed that the rice shortage has always been an election issue with the opposing party harping on the magnitude of the rice problem and the failure of the administration in promoting increased rice production. This produces a psychological effect on the housewives who often hoard rice out of fear. One can imagine the effect on the rice supply if each housewife hoards even a sack of rice. Political combat among warring candidates may also have been taken advantage of by unscrupulous businessmen to hoard rice stocks for better price.

Scientific Causes of the Rice Problem

The more scientific causes of the low rice productivity .. which caused the yearly shortage in domestic production are as follows:

Lack of irrigation - As of 1969,[6] of the total cultivated area of 8.8 million hectares, only 0.8 million hectares were provided with irrigation water, or only about ten per cent of the total cultivated area. Likewise, of the 3.2 million h a hectare devoted to rice production, only 25 per cent was provided with irrigation, sufficiently throughout the year. In 1960, only 329,684 hectares were provided with irrigation water. Therefore, the irrigated area increased to 499,547 hectares in nine years or an average of 55,505 hectares per year.

Since rice is a semi-aquatic plant, it needs sufficient water during its vegetative and productive growth periods. The yield of rice in an area provided with adequate water is much higher than an area without a natural or artificial source of water. Irrigation is the supplying of land with water from artificial channels to promote vegetation. During the crop year 1964-65, the first crop of irrigated lowland rice in the Philippines yielded 1.8 metric tons per hectare as against 1.3 metric tons of the non-irrigated, or a difference of 0.5 metric tons per hectare. On the second crop, the irrigated lowland rice yielded 0.7 metric tons per hectare more than the unirrigated.[7]

The evaluation made by the author of the impact of irrigation and production inputs on the yield of rice in 1960,[8] it was found out that irrigation and fertilizer contribute and additional yield of about 80 per cent, improved seeds by an additional 13 percent, and weeding, pest control and

6/ DANR, Rice and Corn Production Coordinating Council, Annual Report for the Fiscal Year 1968-69 (Diliman, Quezon City: mimeographed, 1969), Appendix "H".

7/ Frank H. Golay and Marvin E. Goodstein, Rice and People in 1990 (Manila: U.S. AID, August, 1967), Table 15, p. 76.

8/ The study was conducted in 1960 in connection with the evaluation of the impact of fertilizers, seeds and improved cultural practices, as part of my regular job under the Rice and Corn Production Program as then Chief, of the Report and Evaluation Section.

other improved cultural practices by an additional seven per cent. This same result is reported by Ishikawa in his study of irrigation and fertilization as primary inputs on the yield of selected agricultural products in some Asian countries.9/

Rice areas in the Philippines are classified into three kinds: lowland irrigated, lowland rainfed, and upland. Lowland irrigated are those areas provided with an artificial source of water in addition to rain; lowland rainfed are those areas dependent only on rain; and upland are those areas not benefited by any other source of water except rain and are usually at higher elevations. Table 4 below shows the areas planted with rice in the Philippines, classified according to culture and their corresponding average production per hectare.

TABLE 4

PHILIPPINES: AREAS PLANTED WITH RICE AND AVERAGE YIELD ACCORDING TO CULTURE, 1956, 1959-64 and 1966 a/

Year	Areas Planted in Thousand Hectare			Average Yield in Metric Tons Per Hectare		
	Irrigated	Unirrigated	Upland	Irrigated	Unirrigated	Upland
1956	0.6	1.5	0.7	1.67	1.22	0.72
1959	0.7	1.5	0.8	1.80	1.28	0.68
1960	1.0	1.5	0.8	1.44	1.09	0.79
1961	1.0	1.7	0.6	1.51	1.10	0.71
1962	1.1	1.5	0.7	1.50	1.25	0.81
1964	1.0	1.5	0.6	1.50	1.19	0.72
1966	1.0	1.5	0.6	1.80	1.23	0.72
Average	-	-	-	1.60	1.19	0.74

a/ Estimates of the Bureau of Agricultural Economics, Department of Agriculture and Natural Resources.

b/ Includes areas which are only planted during the rainy season due to poor irrigation facilities during the dry season.

9/ Shigeru Ishikakur, Economic Development in Asia Perspective (Tokyo: Konikuniya Bookstore Co., 1967) p.70-71.

Philippine irrigation systems are classified into gravity, communal (also gravity) and pump irrigation systems. Gravity irrigation draws water from rivers by temporary or permanent dams, and diverts it through networks of canals. The reservoir type is still non-existent, although in the near future, the Angat multipurpose irrigation project with a designed area of 32,000 hectares will be operating. Another reservoir type, the Upper Pampanga multipurpose irrigation project with a financing of $60 million loan and a Philippine counterpart of ₱200 million will soon be constructed as soon as negotiations are complete.10/

Pump irrigation, which draws water from rivers, creeks, ponds and lakes, is now shifting to underground water source. As of 1969, there were 5,028 pump units installed thoughout the country with an irrigated area of 164,738 hectares.11/

Ineffective communication of technical information from scientists and researchers to end-users. This inadequacy refers to the "effects" of research, extension and agricultural education which are three essential services that a government must provide for agricultural development. Research evolves new ideas and techniques, extension assists people in putting the products of research into practice, and agricultural education trains personnel for agricultural development.12/

In the Philippines, although all three important services are being undertaken with much sophistication, a great deal is still desired, especially in matters of communicating research results to the end-users. Under the Reorganization Plan of 1955, the agricultural extension service was separated from the Department of Agriculture and Natural Resources. Because of this, there resulted a vacuum in the communication of technical information from scientists and researchers, who are mostly within the Department of

10/ Philippines, National Irrigation Administration, Annual Report for the FY 1968-69 (Quezon City: Government Printing, 1969), p. 9.

11/ Philippines, Irrigation Service Unit, Annual Report for the Fiscal Year 1968-69 (Quezon City: mimeographed, 1969), Appendix II

12/ United Nations, Food and Agriculture Organization, Increasing Food Production Through Research, Extension and Agricultural Education (Rome: FFHC Study No. 9, 1962), pp. 3-77

Agriculture and Natural Resources, in the state universities, and colleges, and private institutions. The extension service is also engaged in some applied research which is supposed to be conducted by the research institutions, thereby resulting in duplication of activities, waste of resources, and the eventual confusion of not only government personnel, but also the farmers. The breakdown of communication channels made the transmission of research findings, introduction and distribution of high yielding varieties and other inputs, extension and supervision credit, and campaign for the adoption of improved farm practices, rather difficult and slow.

Other bottlenecks in research are the inadequacy of facilities and equipment, and the lack of technical preparation for most researchers, which is common in the Department of Agriculture and Natural Resources.13/ Besides, transfers of researchers and production men to private institutions of other branches of the service is gaining momentum. For example, the Bureau of Plant Industry, alone, lost at least twenty of its good men in 1968 due to transfer to other branches of the service and to banking institutions.

Educating the farmers is one of the principal activities designed to eradicate traditional attitudes, customs, and beliefs of the rural people, who are characterized by low level of literacy and income. To break these barriers, the need for more adequately trained extension personnel cannot be over emphasized. Extension programs should be intensive and continuing, using the latest findings of research and methods. A change in the extension method in the Philippines

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13/ This assumption was based on the fact that among the employed researchers and production men, very few have undertaken advanced studies or under graduate courses, although they all hold a bachelors degree.

was made recently and that is the do-it-with-the-farmer method rather than the tell-it-to-the-farmer, which was practiced before. In addition, intensive demonstrations are being conducted in the farmer's farms. Seed kits containing fertilizers and insecticides and simplified instructions are sold at a low price to farmers. Farmer-recepients of the seed kits also underwent intensive follow-up by extension and production men. Personalized service to farmers is being extended according to the principle of supervised credit.14/

Lack of production inputs (seeds, fertilizers and agriculture chemicals). Seeds, fertilizers and agricultural chemicals are indespensable production inputs that should be made available to farmers, either by the government or by the private sector. Dr. A.T. Mosher in his book Getting Agriculture Moving, identified five essentials in agricultural development: transportation, markets for products, new technology, availability of purchasable inputs, and incentives.15/

In the Philippines production inputs are not only inadequate, but also costly. Because of depressed income caused by low productivity and lack of liberal credit, most farmers cannot readily avail themselves of production inputs.

Seeds are either produced by the government, or by private seed-growers. Seed production by the government is confined to breeder, foundation and some registered seeds. As a greater quantity of registered and certified seeds are needed, willing and able seed growers are being enlisted to produce these seeds under the supervision of government seed inspectors. The registered and certified seeds produced by farmers, after passing certification standards, are either procured by the government, or are sold by the seed growers directly to individual farmers. Seeds that pass certification

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14/ Department of Agriculture and Natural Resources, National Food and Agriculture Council, Updated Rice Self-sufficiency Program for the Fiscal Year 1967-70 (Diliman Quezon City: mimeographed, 1967), pp. 17-21.

15/ T.A.Mosher, "Getting Agriculture Moving", cited in Clifton R. Wharton, Jr. "Modernization of Subsistence Agriculture" in Myron Weiner ed., Modernization: The Dynamics of Growth (New York: Basic Books Inc., 1966), p. 263.

standards are tagged and sealed to distinguish them from ordinary commercial seeds.16/

While the availability of seeds was not so much of a problem recently, it is the price that prevents farmers from planting registered or certified seeds. Registered and certified seeds are sold to farmers at ₱35.00 and ₱30.00 per cavan, respectively, while the price of commercial palay is ₱16.50 per cavan. Besides price, another problem is the concentration of stocks in bonded warehouses which are limited, and located mostly in principal towns and commercial centers; hence, farmers cannot readily procure their requirements due to distance and additional expense. In addition, the government due to lack of available funds, cannot expand its seed production, certification, procurement and distribution activities. 17/

Fertilizers are either sold by the government or by the private sector. Government fertilizers are sold at subsidized prices anywhere in the country, but the stocks are limited. The common complaint of farmers is that fertilizers are not available when needed due to delays in the shipment and cumbersome purchasing procedures. Government fertilizers are sold either on a cash or credit basis, payable after harvest. Like government seeds, the problem concerning fertilizer is that the stocks are concentrated in few and distant places; thus, the farmers entail additional expenses in obtaining their needs. The prices of commercial fertilizers are much higher than the government

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16/ Breeder seed is the seed stock maintained by plant breeders. The progeny of breeder seed is called foundation seed and registered seed is the progeny of foundation seed. Certified seed is the progeny of registered seed. Because of technical requirements, the production of breeder and foundation seeds are confined to government experiment stations and seed farms. Seed certification, by law, is the responsibility of the Bureau of Plant Industry.

17/ The Bureau of Plant Industry has but 45 seed inspectors responsible in distributing seeds throughout the whole country which is composed of 70 provinces. The seed inspectors also supervise seed producers, undertake field certification, gather seed samples for laboratory analysis, and tag and seal seeds that have passed laboratory certification. Only about ₱800,000 is provided annually by the government for seed procurement and distribution.

fertilizers.

Most agricultural crops in the Philippines are underfertilized. The survey conducted by the ESSO Fertilizer Company in 1966, indicated that rice is fertilized up to only 30 per cent of the recommended rate, up to ten per cent for corn, up to five per cent for coconut and abaca, and up to 30 per cent for sugar cane and vegetables. Records as to actual fertilizer production, consumption, and importation are not available as there is no central office in any departments, responsible for the compilation and issuance of statistics on fertilizer.18/

The estimated fertilizer requirement for rice, corn, sugar cane, tobacco, coconut, abaca and vegetables in 1968 amounted to 739,500 metric tons. The existing fertilizer manufacturing companies were not operating at full rated capacities due to the slow adoption of fertilizer use by the farmers. 19/

Fertilizer consumption in the Philippines is expected to rise in view of the promotional efforts being undertaken by both the government and the private sector. This rise is also expected due to the availability of financing from credit institutions such as the Philippine National Bank, the Development Bank of the Philippines, the Agricultural Credit Administration and the rural banks, and private dealers. Also, high yielding varieties of rice, corn, sugar cane, coconut, vegetables and other crops are being introduced, warehousing and distribution channels improved, and incentives to the fertilizer industry such as the sales tax and other exemptions are being provided.

As a summary, it may be concluded that the underusage of fertilizers is due to the organizational problems within the government and private agencies, lack of supply, high price, inadequacy of credit and the resistance on the part of the farmers.

18/ Department of Agriculture, Bureau of Plant Industry, Position Paper on the Recent Development in Fertilizer Production and Distribution. (Submitted as a discussion Paper during the Evaluation of the Food Production Program in August, 1969), pp. 1-3, 6-7.

19/ Ibid., p. 8.

Agricultural chemicals include chemicals for the control of pests, diseases and weeds. The use of agricultural chemicals is affected by the same problems as those for seeds and fertilizers. Chemicals, however, are more difficult to introduce to farmers, not only because of their lack of education, knowledge and low income, but also of their lack of equipment such as sprayers and dusters. From 1958-65, the government has provided free chemicals and spraying equipment in order to facilitate the education of the farmers. In addition, the control of widespread infestation, especially rats and locust has been the responsibility of the government.

From 1966 to date, however, free chemicals are no longer provided. Therefore, the supply of chemicals is assumed by the private sector, except limited stock of Gamma BHC and rodenticides, which are supplied by the government in case of emergency or as loans to farmers.

Every year agricultural pests and diseases cause considerable crop damage in the Philippines. In 1967, about 1,497 hectares were infested with locust, out of which 153 hectares were completely destroyed. In the same year, rats infested 2,612,557 hectares in 54 provinces involving 552 municipalities. The massive control operations resulted in the destruction of about eight million rats. Rice stem borers, leaf hoppers, rice bugs and army worms infested about 265,247 hectares and caused about 20 per cent damage to crops during the same year. 20/

The rat is the number one enemy of farmers. In 1967, approximately three million cavans of palay, valued at about P37 million were destroyed by rats.21/

Poor agricultural management . Cultural management refers to the adoption of improved farm practices such as proper land preparation, seed bedding, distance and rate of planing, control and use of water, weeding and cultivation,

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20/ Department of Agricultural and Natural Resources, Bureau of Plant Industry, Annual Report for the Fiscal Year 1966-67 (Manila: mimeographed, 1967), p. 261.

21/ Department of Agriculture and Natural Resources, Bureau of Agricultural Economics, The Philippine Agricultural Situation VI, No. 4 (Quezon City: mimeographed, 1967), p.25.

plant protection and timely application of the right kind and quantity of fertilizers. Improper land preparation also leads to uneven distribution of water, resulting in the weakening, stunting and damaging of seedlings, which when transplanted, take more time to recover or may even die. Proper rate and distance of planting facilitate the growth of more productive tillers and counteract the growth of more weeks. Weeding is an expensive farm activity. To expect a better harvest, it is a "must" that fields should be thoroughly puddled and leveled before transplanting. Seedlings should be properly raised and transplanted at the right age and at a correct distance. The field should be level in order to provide even distribution of water and fertilizer and at the same time to prevent the growth of more weeds. Planting in straight line facilitates weeding, fertilizer application and the control pests and diseases. Water should be controlled not only to control weeds, but also to aerate the soil.

The failure of farmers to adopt approved agricultural practices may be due to their lack of knowledge or capital, plain laziness, or lack of incentive. Lack of incentive maybe due to the predominance of share-tenancy. Usually, as recognized in the Land Reform Code, share tenants do not receive fair returns from their investment and labor.22/

The ignorance of modern agricultural practices is common among the farmers. For instance, in Leyte, before the Joint Philippine-Chinese Rice Production and Extension Project,23/ rice cultivation was so primitive that there was no rice paddies. Land preparation was done by trampling the soil with human or animal labor. Seedlings were transplanted in a chaotic fashion, either too many or too little at a time, and with no conception of proper distancing. Worse than that, the crop was left untended at the mercy of nature.

22/ For more information on the Philippine agrarian problem, see Frank H. Golay, The Philippines: Public Policy and National Economic Development (New York: Cornel University Press, 1961), pp. 266-293.

23/ The author was the chairman of the committee that surveyed the project area in 1968, prior to the selection by the Republic of the Philippines and China as one of the projects of the Joint Rice Production and Extension Projects of the two governments.

The farmer would return to the farm only when the rice was about to be harvested, if at all.

In other areas, however, scientific rice farming is already widely adopted as in Central Luzon, Southern Tagalog, and the Bicol region.

Lack of production incentive. Lack of production incentive is one of the most crucial problems effecting not only the rice industry, but also the whole of agriculture. When one speaks of production incentive, what is commonly referred to is price. The major and all-persuasive economic factor is price-the price of what farmers buy and of what they sell. Regardless of the type of economic system, whether it be democratic, autocratic or socialist, the farmer rarely has a voice in fixing the price of what he buys and sells.[24]

In the Philippines, price is still the most important stimulator or inhibitor of agricultural productivity. The farmers, against common belief, are good businessmen. Once there appears a signal indicating a good price, the farmer exerts all efforts to plant high yielding varieties and adopt improved agricultural practices in order to take advantage of a better margin. However, the price of palay is low, and it is not likely that farmers will get a better return for their produce. As a result of this low price and low productivity, the farmers are not able to enjoy higher income. As a consequence of the low income, farmers cannot free themselves from the vicious cycle of low productivity, low income, and poverty.

To alleviate the plight of the farmers, a rice price stabilization policy was enacted into law. But, this policy has not been very successful as J. Drilon, Jr, observed.

> " On the whole, the rice stablization policy of the government during the last 15 years or so has been inclined more towards the favor of the consumer as against the welfare of the producers. In the last four years, however, the policy has shifted in emphasis, more and more towards the wellbeing of the producer.

24/ Clifton R. Wharton, op. cit., p. 263.

> The policy has been severely criticized as having ignored wholesalers and retailers who process the grains and bring it to the consumer markets.
>
> The policy has also been severly criticized for having been ill-supported financially. . . has no funds for establization purposes . . . .
>
> Fufther, the policy has been assailed as being costly. The government has been losing tremendous amount of money on rice importation and subsidized sales. . . . 25/

The production incentive, which proved to be successful in the multiplication of the high yielding varieties, is the premium price of ₱35.00 and ₱30.00 per cavan, respectively, of registered and certified palay seeds.

Lack of effective coordination. This is one of the major obstacles to the solution of the rice problem. The problem of coordination involves at least twelve government departments and agencies which are working on the promotion of the rice industry. These departments and agencies perform inter-related and interdependent activities on research, farmer's education, seed production and distribution, soil sampling and analysis, control of pests and diseases, extension of credit, irrigation development and management, and the procuring of rice and corn. Research, alone, is performed by a number of agencies, state universities, and colleges, including the Rice Research Institute established by the Rockefeller and the Ford Foundation. Seed production is confined mostly to gevenment experiment stations and seed farms, but seed distribution is handled by a number of agencies. Irrigation development is entrusted to a number of agencies such as the National Irrigation Administration for gravity irrigation systems, the Irrigation Service Unit for pump irrigation, and both the Presidential Arm on Community Development and the National Irrigation Administration for communal systems. Extension of credit is adminstered by autonomous and semi-autonomous agencies, together with the rural banks, of which there are about 370 at present.

25/ Jose Drilon, Jr. "Rice Price Stabilization and the Rice and Corn Administration" Philippine Journal of Journal of Public Administration, . IX, No. I (January, 1967),pp.240-241.

Because of the proliferation and fragmentation of projects concerning the rice industry, coordination among them is made extremely difficult. Waterston states that coordination of development activities becomes more difficult in many developing countries, because responsibilities for different projects or programs are divided, often incongruously, among ministries and agencies. He further explained that the excessive fragmentation of functions makes it it difficult to channel the activities of coherent economic policy. Waste and duplication are frequently the results.26/

In the Philippines, the problem of coordination is aggravated by the agency orientation of activities rather than on programs solely concerned with the rice industry. These agencies are concerned with all other crops and no single agency is principally responsible to promote increased rice production. In addtion, field offices of participating agencies are housed independently and very often at a far distance from each other, thus, making close communication a problem.

To effect better coordination among the various agencies concerned with the rice industry, a Rice and Corn Production Coordinating Council was created in 1958, under Republic Act 2084, to implement the Rice and Corn Production Program.27/ The principal function of the Council is to promulgate and prescribe policies, rules and regulations which will govern the implementation of the Rice and Corn Production Program. Despite the creation of the Council, however, coordination of the agencies did not improve satisfactorily, that is until the end of 1966. The operation of the Council, after it was reorganized, is discussed in Chapter IV. Agency orientation of activities, petty jealousies, and duplication of activities still prevailed and utilization of funds, in accordance with legislative intent, has not been followed frequently. The conclusion of Parsons on the performance of government agencies is still true.

26/ Albert Waterston, Development Planning: Lessons of Experience (Baltimore, Maryland: John Hopkins Press, 1965), pp. 267-268.

27/ See Appendix 1.

> "In the Philippines, a government Survey and Reorganization Commission produced a series of plans for reorganization, but in the main, the commission's proposals have been idealistic, formulary schemes and improving executive direction, coordination and control but there is often a marked descrepancy between what actually transpires in administration and what the Statutes and administrative orders prescribed."28/

On the agency level, coordination is hampered by the tendency of personnel to seek assignments in the capital city or principal towns to the neglect of the farmers, who are mostly located in the barrios and villages. Efforts exerted so far to influence the personnel to live and work with the farmers have not produced good results. Few supervisors and technicad men travel away from home or travel frequently enough to become familiar with the problems, as they exist in the hinterlands. There is lack of reliable information about the needs and progress of development outside the capital and other large population centers. Poor communication between central authorities and those in the provinces, districts and barrios, or other local areas, also creates a reduction in the flow of information from central government to officials in outlaying areas.

It is also the common experience of financing institutions that extension agents and production men are frequently transferred from one place to another; as a result, supervision of farmer-borrowers is badly jeopardized. The frequent transfers of personnel severely handicap loan collection, for it is the fieldmen who screen and recommend loan applicants.

Inadequate financial support . Lack of adequate financial support is one of the major problems faced by agricultural development administrators, in pursuing programs or projects. The limitation of funds is not only felt during the planning stage, but also in the implementation of programs and projects. Most often, important and viable projects cannot be proposed, and on-going projects cannot be completed on time. Because of fund limitations, necessary logistical support cannot be extended. Specifically, the following problems are encountered by agencies, concerned with the promotion of increased production, due to inadequate financil support.

a. For irrigation development, of the ₱82.5 million fund requirement of the National Irrigation Administration needed to generate an additional irrigated area of 76 800 hectares, only ₱29.9 million was released; thus, only

55,459 hectares were generated.[29] Similarly, of the ₱5.5 million authorized budget of the Irrigation Service Unit, only ₱4.6 million was released, thereby greatly affecting the investigation of new pump sites, following-up of completed projects, and the conduct of feasibility studies for underground water. Also, the request of farmers for more pumps was not met satisfactorily.[30]

b. For rice, palay, and corn procurement for the maintenance of buffer stock, only ₱16 million out of the authorized appropriation of ₱20 million for operating expenses of the Rice and Corn Administration was released. On top of this, the amount earmarked by Congress for the purchase of a seasonal surplus stock of palay, rice and corn was not fully released. As a result, only 1.7 million cavans of palay and 0.46 million cavans of shelled corn, were procured. Also, the same agency's resources will be greatly impaired unless its debt of ₱220 million to the Philippine National Bank due to the rice importation from abroad, will not be absorbed by the national government.[31] The price stabilization policy of the government for the last fifteen years or so has been severely criticized due to inadequate financial support.[32]

c. For farm credit, the Agricultural Credit Administration cannot expand its extension of production and commodity loans to farmers and facility loans to cooperatives due to an inadequacy of capital. This same agency was able to an inadequacy of capital. This same agency was able to extend only ₱25.2 million in loans to farmers and cooperatives during the fiscal year 1966-67, out of the more than ₱50 million loan applications.[33]

d. Extension of personalized service to farmers cannot be undertaken on a massive scale as additional personnel cannot be employed and necessary traveling allowances cannot be provided.

29/- National Irrigation Administration, Annual Report for the Fiscal Year 1968-69 (Quezon City: Government Printing, 1969), pp. 6-31.

30/- Irrigation Service Unit, Annual Report for the Fiscal Year 1968-69 (Quezon City: mimeographed, 1969), p. 10 Appendix 3.

31/- Rice and Corn Administration, Annual Report for the Fiscal Year 1966-67 (Quezon City: Government Printing, 1967), p. 2.

32/- Jose Drilon, Jr., op.cit., p. 241.

33/- Agricultural Credit Administration, Annual Report for the Fiscal Year 1966-67 (Manila: Government Printing, 1967), p. 4-5.

e. Adequate supply of seeds and fertilizers cannot be provided the farmers due to fund limitation.34/ The ESSO Fertilizer and Chemical Company may also close shop unless its application for dollar allocation from the Central Bank is approved. It has applied, almost a year ago now, for $750,000 to pay for the rock phosphate it had imported for the manufacture of local fertilizers; but the application has not yet been approved, yet the delivery of the materials has already been received.35/

The inadequate financial support for programs and projects is not only true in the Philippines but also in other countries. For instance, the fertilizer plant, steel plant, machine tools, alloy and steel plant of India, during the fourth plan, were not completed on time due to fund limitations. India also lost about $20 million in the form of foreign exchange when her export of Kiriburu iron ore to Japan was delayed for one year.36/

Lack of consistent policy. This may also be attributed as one of the causes for low productivity and rice shortage. With every change in administration, the most common practice is to implement new programs or crash programs totally or partially disregarding previous programs by their predecessors. As a result, the already limited resources are spread over wide areas. Also, the traditional solution to the rice shortage is importation, which is not only a drain of the much needed foreign exchange but also a retarding force to the initiative and efforts of the private sector to make substantial investment in the rice industry.

Internal Marketing and Distribution Patterns and Practices in Marketing Paddy and Rice

In the Philippines, marketing of paddy and rice is usually undertaken by individual entrepreneurs. The specialization of middlemen into each of the activities involved in marketing, such as storing, transporting, processing and delivering is not so well developed as yet. Only a few merchants are operating with

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34/ - Department of Agriculture and Natural Resources, RCPCC Annual Report for the Fiscal Year 1967-68 (Diliman, Quezon City: mimeographed, 1967), p. 17.

35/ - Development Bank of the Philippines, Animal Husbandry and Agriculture Journal, I (January, 1970), p.3.

36/ - Albert Waterston, Development Planning: Lesson of Experience (Maryland: John Hopkins Press, 1968), pp. 304-305.

large capital and engaging in money-lending, buying, warehousing, milling and selling of the cereal. With only a few of the moneyed people engaged in the rice trade, the situation is conducive to price manipulations and the creation of artificial shortage. It has been claimed that the rice crisis of 1960, in the Philippines, was deliberately created by the few big businessmen engaged in rice trading.

Organizations, agencies and institutions involved.

Prices of paddy and rice in the Philippines follow a fluctuating pattern, normally low during the harvest and reaching a peak during the lean months. (See Chart 4 in page 54). Fluctuations are more severe in under developed areas like Mindanao, Samar, Leyte, and the Cagayan Valley, where farmers are forced to sell upon harvest, or even before harvest through advanced payment, to meet their daily expenses or to repay debts. This condition was brought about by the depressed income of the farmer, caused by low productivity, a high share tenancy rate, and the inadequacy of credit.[37]

In view of this situation, the following agencies the institutions were organized not only to help improve the efficiency in the marketing of paddy and rice, but also to stabilize its prices:

Rice and Corn Administration (RCA)

The objectives of this agency are as follows:[38]

1. To properly stabilize the price of palay, rice, corn and corn grit, by absorbing the seasonal surplus from the markets during harvest, and unloading these stocks during the lean months.

2. To build up an adequate buffer stock in order to take care of unforeseeon emergencies such as typhoons, floods, droughts, and insect, rodent and other infestations.

3. To increase production by providing direct incentive to the farmers in the form of price support and other measures. The policies of said agency, as provided in its charter, R.A. 3452 and as amended by R.A. 4643 are:[39]

37/ - DANR, Philippine Agricultural Situation, Vol. 1, No. 4

38/ - Rice and Corn Administration, Annual Reports for the Fiscal Year 1965-66 and 1966-67 (Quezon City: Government printing, July 1, 1966 and December 2, 1965) pp. 1-2.

39/ - For more information of the provisions of R.A. 3452 and R.A. 4643, see Jose Drilon, Jr. op.cit., pp. 230-243.

(a) Supporting the price of palay at not less than P16.00 per cavan of 46 kilos gross, clean and dry, F.O.B. nearest RCA center. (b) Supporting the price of corn at not less than P13.00 per cavan of 56 kilos, clean and dry, F.O.B. nearest RCA center. (c) Selling rice and corn grit at P1.40 and P.80 per ganta, respectively.

Agricultural Credit Administration (ACA).[40/]

Formerly called the Agricultural Credit and Cooperative Financing Administration, the ACA is a credit institution, created to meet the credit needs of farmers and Farmer's Cooperative Marketing Associations (FaCoMa). It serves both the Land Reform Program and the Rice Self-sufficiency Program. It also has administrative supervision over cooperative affiliated with it. It is the only credit institution created for service and not for profit and the only credit institution that goes out to the farmers. It assists them in their financial needs and organizes them, without waiting for them to come to its office.

As a credit institution, it extends the following type of loans:

Production loans - These are short-term loans to finance expenses in farm operation, including procurement of fertilizers, seeds, pest control chemicals, land preparation and transplanting, and acquisition of tools and small equipment. The maturity time of the loans is 60 days after harvest time at eight per cent interest per annum, and the loan may be released in cash or in kind. Loans are released on the principle of supervised credit, which is in accordance with the farm plan and budget, prepared by the farmer with the assistance of a government production technician.

Commodity loans - Also short-term, payable in 120 to 180 days at seven per cent interest per annum, this loan is secured by the produce of the borrower which is deposited in a FaCoMa warehouse. This loan is intended to meet the financial requirements of the farmer while waiting for a better price. It also operates to liquidate the production loan.

Marketing loans - Also short-term, farmers who prefer to sell their produce outright, instead of securing commodity loans.

40/ - For more information on the policies and objectives of the Agricultural Credit Administration, read the provisions of Republic Acts 821 and 3844, otherwise known as the Agricultural Land Reform Code, as well as the annual reports of said agency for the fiscal years 1965-66, 1966-67, and 1967-68.

To meet this particular need, qualified FaCoMas may be granted this type of loan payable within 180 days at 8% interest per annum. This loan is intended to strengthen the marketing functions of FaCoMas.

Facility loan. This is granted to eligible FaCoMas, at 8% interest per annum, to make it possible for them to acquire or build facilities such as warehouses and storage equipment, rice mills and the like. Secured by the facility or facilities acquired, it is either a medium or long-term loan, depending on the nature and kind of the facility to be financed.

Farmers Marketing Cooperative Association (FaCoMa).[41/]

As the name indicates, these are private institutions composed of farmers and producers whose objective is to have a better marketing conditions for their produce. There were, as of 1967, 602 FaCoMas in the Philippines with an aggregate authorized capital of P48,936,700 and a paid-up capital of P10,583,165. There are 352,683 farmer-members of the cooperatives. Of the 602 cooperatives, 366 are concerned with rice and corn, of which 113 are classified as active with a total membership of 46,072. The FaCoMas are all registered with the Securities Exchange Commission and are also affiliated with the Agricultural Credit Administration.[42/]

Rice and Corn Board (RICOB).

This is a government agency, created to implement the nationalization of the rice and corn industry. It has supervision over all rice and corn retailers, wholesalers, millers and bonded warehouse owners. It also extends loans to rice and corn traders for the purchase of sites, construction of buildings, mills, driers and other permanent investments.

Grains Marketing Cooperative of the Philippines (GRAMACOP).[43/]

This was organized, in early 1967, by nine FaCoMas and six producers, in response to a long felt need for a specialized rice marketing organization on the national level. With a paid-up capital of P30,000 said organization was able to conduct

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41/ - Agricultural Credit Administration, Annual Reports for the Fiscal Years 1965-66, 1966-67 and 1967-68 (Manila: Government Printing, 1966, 1967 & 1968), pp. 9-11, 4-7, 11-30, respectively.

42/ - Agricultural Credit Administration, Annual Report for 1966-67 (Manila: Government Printing, December 1, 1967), pp. 12-14.

43/ - Ibid., p. 14

business worth P317,252.00 up to the end of 1967.

Philippines Exchange (PNB).

This is a subsidiary of the Philippine National Bank, which is engaged principally in the marketing and distribution of agricultural products by giving priority to the bank clients. The Philippine Exchange is one of the agencies that made a trial export of rice abroad in 1968.

Market Outlet Used. Through the years, dislocation of the movement of rice ahs been a usual phenomenon in the rice industry. At harvest time, rice moved from surplus producing areas to deficit areas, and during lean months these same production areas have had to buy their rice requirement. This situation has encouraged speculation resulting in the instability of prices which is greatly felt during the lean months of July to November (See Chart 4, page 77a, indicating the seasonal price trend). With the introduction of the high yielding varieties, however, which enabled double cropping, the seasonal price trend from low at harvest and relatively high during the lean months is somewhat changing.

Sales Arrangement. The procured stocks of private merchants are often processed and sold in the form of rice. However, due to the exigency for cash, palay stocks are sold in raw form. A survey made in 1965, indicated that traders and millers disposed 99 per cent of their stocks at their establishments and only one per cent were brought to marketing centers.44/ This indicated that organized buyers of milled rice existed who buy their stocks from traders or millers and being the same in the marketing centers, especially in the urban centers.

As authorized by R.A. 4643, which was amended by R.A. 3452, the Rice and Corn Administration is trying to stabilize the price of palay, rice and corn through the implementation of the price stabilization policy. Its stocks are disposed or unloaded through registered retailers and its distributing centers in the cities.

Storage and warehousing.45/ As of July, 1967, there were about 2,325 warehouses all over the country with a total capacity of

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44/ - The survey was conducted by participants in the 1st National Seminar on Agricultural Marketing held in Manila in 1965 cited in Epitacio A. Lanuza, Philippine Country Report on Regional Plan Harmonization and Economic Cooperation (Bureau of Plant Industry, Manila: mimeographed, October, 1968) p. 29.

45/ - Department of Agriculture and Natural Resources, Rice Self-sufficiency Program (FY 1967-70) (Diliman, Quezon City: mimeographed, 1967), p. 201.

147,410 in terms of cavans (44 kilos palay milled for 12 hours continuous operation), and 4,215 units of the huller type ('kiskisan'), with a total input capacity of 79,445 in terms of cavans (44 kilos palay milled for 5 hours continuous operation). Milling by hand pounding is usually undertaken only by farmers in their own homes for their own homes for their own consumption, usually far from small rice mills.

Financing. The Philippines is trying to help rice traders and millers in the marketing of paddy and rice, through some banking institutions such as the Development Bank of the Philippines, which extends regular loans for the establishment of rice mills; the Central Bank, through its Agricultural Guarantee Loan Fund to Rural Banks for marketing or commodity loans; the Rice and Corn Board for financing of loans for the purchase of sites, construction, repair, and improvements of warehouses, mill buildings and extensions of working capital requirement. The Agricultural Credit Administration extends facility and marketing loans to FaCoMas and commodity loans to farmer-depositors. The Rice and Corn Administration, under R.A. 4643, purchases palay and corn through the use of warehouse receipt or "quedan", payable to designated rural banks and/or the Philippine National Bank.

Transporting. The majority of the farmers, as well as traders, use motor vehicles in transporting their stocks to the marketing centers. Except for the Philippine National Railway and the Rice and Corn Administration, no other government entity is engaged in the transport of the farmers produce.

There existed inadequacy of transportation facilities in most parts of the country, especially in the Cagayan Valley and Mindanao provinces, which as a result makes movement of palay or rice rather expensive. In addition, the road condition in these places are so bad thereby contributing to the very much depressed farm prices thereat.

The problem of inadequacy of warehouses, mills, and marketing channels is one of the causes of the rice shortages, since stocks in surplus areas cannot be easily moved to the deficit places.

Summary of Important Problems in the Internal Marketing of Paddy and Rice. The following may be cited as important problems in the internal marketing of paddy and rice:

1. Minimum support price for palay and consumers' support price for rice are not usually implemented in many areas in the Philippines.

2. Lack of capital of traders.
3. The unit of measure in retailing, by the ganta, sometimes causes misunderstanding between the consumers and the retailers.
4. The price of jute sack is continuously rising, which adds to the cost of marketing.
5. Lack of transportation facilities.
6. Feeder roads are lacking or absent in remote areas.
7. Inadequacy of strategically located warehouses.
8. Terminal warehouses and up-country bodegas in areas of inadequate storage are not available, although 20 units were under construction using loans from the Development Bank of the Philippines.
9. Liberal credit most often is not extended on time to the private sectors and to farmer's cooperatives due to lack of capital from lending institutions.
10. Warehouses are not yet equipped with driers to take care of the palay harvests during the rainy season.

External Marketing

The government recognizes the role of the private sector in its participation in the external trade of rice. For greater and equitable mobility of the product, private traders should be allowed to handle importation. Likewise, they should also be given a greater degree of participation in the importation, under a certain authority and supervision by the government.

Presently, the Philippine Government is doing most of the foreign trade through the Rice and Corn Administration, the Philippine Exchange of the Philippine National Bank, the Central Cooperative Exchange, and the Agricultural Development of Rizal. The only private agencies that have handled foreign trade were the Seed Growers of the Philippines and the Seed Corporation of the Philippines, when an export of seeds to some countries were transacted in 1968.

Rice export from 1950 until 1967 was very negligible and could not be classified as commercial trade; the highest export was 9,600 metric tons in 1950, followed by 1,627 metric tons in 1960. Exports at later dates were between 1,200 and 1,600 metric tons.

In 1968, 111,564 metric tons of milled rice was re-exported by the Philippines from the importation of more than 298,000 metric

tons of rice.[47/]

Consequence of Low Productivity

As was pointed out earlier, the second objective of this chapter is to analyze the consequence of low productivity on family income, the national economy, and on the health of the nation. It should be emphasized, however, that in view of limited statistics and information at hand, the author is constrained to do elementary or crude analysis. In analyzing the consequence of low productivity, the following guiding questions may be asked:

1. How much income does an average farm-operator get from rice farming? How much of this income is spent for food and other expenditures? What are the other sources of income to the farmer?

2. How much does the rice industry contribute to the national income or net domestic product? How much to domestic capital formation? How much to foreign exchange?

3. Is there malnutrition or hunger? What is the per capita consumption of rice? What is the recommended nutritional requirement? How is the deficiency in rice counterbalanced by other foods?

The above questions will be andswered in analyzing the impact of low productivity.

On Family Income.

The Agriculture Census of 1960 enumerated 2.166 million farms with an average of 3.6 hectares of which 2.6 hectares were under cultivation in annual and perennial crops. The average size of farms varied from a low of 1.67 hectares for tobacco farms and 2.5 hectares for corn farms to a high of 13.9 hectares for sugar cane farms and 8.5 hectares of abacca farms. Palay farms have an average of 2.98 hectares.[48/]

47/ - DANR, Rice and Corn Production Coordinating Council, Annual Report for the Fiscal Year 1967-68 (Quezon City: mimeographed, August 1968) p. 17.

48/ - Philippines, Bureau of Census, Census of Agriculture, 1960 cited in Frank H. Golay and Marvin E. Goodstein, op. cit., p. 14.

The ten-year national average rice production per hectare was 28 cavans of palay (see Table 3). In the joint rice production projects of the Republics of the Philippines and China, the average production was 138 cavans of palay per hectare. The present government price support for palay is ₱16.00 per cavan. There were also about six million people engaged in the rice industry.

With the above information, one could analyze the impact of low productivity on family income, and on the national economy. The results of the analysis will also lead to some policy that should be undertaken to relieve farmers of the so-called problem of low productivity.

The analysis of the farm business will give the following information:

	Income	
	Low	High
Average size of palay farm (Ha.)	2.98	2.98
Yield per Hectare in cavans	28.00	138.00
Total production in cavans	83.44	411.24
Gross Income at ₱16.00/cavan	₱1,335.04	₱6,579.84
Less:		
Cost of production/ha.	₱ 765.86[a/]	₱2,741.60[b/]
Net Income	₱ 569.19	₱3,838.24
Less:		
Total Family Food in one year	₱1,298.00[c/]	₱1,298.00[c/]
Savings	₱- 728.81	₱2,440.24

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a/ - Based on ₱257.00 cost of production per hectare using ordinary method of culture. The cost was determined in the joint Philippine-Chinese Rice Production Projects.

b/ - Based on the cost of production of ₱920.00 per hectare using improved farm practices. The cost was also determined in the joint Philippine-Chinese Rice Production Projects.

c/ - Based on the survey on household expenditures from 1961-65 reported in National Economic Council, OSCAS, The Statistical Reporter, XII, No. 4 (October-December, 1968), p. 21. The amount of ₱1,298.00 was the average family expenditure for food in the rural areas.

From the foregoing analysis, the following conclusions can be derived:

1. At 28 cavans per hectare production, the net income would amount to only ₱569.19. This amount is not even enough to cover food expenditures for one year amounting to about ₱1,298.00. Expenses for food in the Philippines as shown by the result of the survey on household expenditures represented about 54 per cent of the total family expenditures. Unless the productivity of the farmer can be raised, he will be in a state of perpetual poverty. His income should be supplemented by other sources such as the raising of other cash crops, after or at the same time as rice and animal production. Also, adequate credit should be provided in order to enable him to put in more inputs to increase his productivity and ultimately his real income. The situation is more dreadful, if the farmer is a share-tenant, which means he gets only from 50 to 70 per cent of the gross harvest.

2. On the high income level, the farm operator is in a better position, although the size of farm is the same. At the average production of 138 cavans per hectare and a cost of production of ₱920.00 per hectare, he could still expect a net income of ₱3,838.24 or ₱2,440.24 after deducting the food expenses. Said amounts could be spent for education, health services, clothing, and for savings or investment. Following Engel's Law,[42] as the income of a family increases, the amount spent for food tends to decrease in proportion to the income; hence, he will be in a better position to supply other needs of the family aside from food.

To enable agriculture to contribute more to economic development of the country is to increase the productivity of the farmer, both in terms of per unit area and per man-hours. As productivity is increased, real income increases, the break-even point between income and expenditure rises.

On the National Economy.

The 1968 national accounts of the Philippines show that rice contributed ₱1,652 million out of the ₱23,575 million net domestic production or national income or seven per cent. As to capital formation, at the average yield of 28 cavans per hectare, it seems rice farmers are not contributing directly in view of their low productivity. The indication is they are actually going deeper in debt. Of course, the limitation of this statement is that the permanent improvements made by the farmer in the farm, such as building soil fertility, improving the physical structure of the

farm, and so forth, are not included. As pointed out by Lewis, agriculture can be made to contribute to capital formation by increasing productivity, so that more savings can be derived and food prices will be lowered.50/ Through increased productivity, agriculture will be the greatest source of revenue through taxation. About half of the population is engaged in agriculture.

As to foreign exchange, the rice industry has not contributed appreciably. The exports of rice from 1950 until 1967 were negligible ranging from P180.00 to P3.8 million. The export of rice and seeds in 1968 earned the Philippines about P87 million in the form of foreign exchange. The only possible way rice agriculture will contribute substantially to the foreign exchange earning of the country is by cesing rice importation and starting rice exportation, after self-sufficiency is achieved.

On Hunger and Malnutrition.

Before approaching the subject in any detail, a clear definition of hunger is required. Two terms are frequently used, "undernutrition" and "malnutrition". By undernutrition, one means, an insufficient per capita caloric intake, due to inadequacy of food available to the individual. Malnutrition refers to the quality of the diet. While the quantity may be sufficient, it may be unbalanced; that is, it may be composed heavily of cereals and starchy foods, such as cereals, potatoes, root crops and tubers, with too few of the protective foods, such as meat, milk, fruits and vegetables. Thus, a malnourished person is one whose diet is inadequate in quality.51/

Based on the above information, the impact of the rice shortage will be measured in terms of available supply and recommended nutritional requirement and in terms of caloric intake. This will give us information whether there exists malnutrition or hunger in the Philippines.

The analysis of the subject necessitates the use of a food balance sheet which shows the food supply available for human consumption, as well as for non-food purposes. Unfortunately, however, only the food balance sheet for the calendar year 1966 and 1967 is available at the moment. As was pointed out earlier

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50/ - Arthur Lewis, Development Planning: The Essentials of Economic Policy (London: Unwin University Press, 1968), pp. 89-90 and 94.

51/ - United Nations, Food and Agriculture Organization, Six Billions To Feed, (Rome: World Food Problem No. 4, 1962), pp. 4-7.

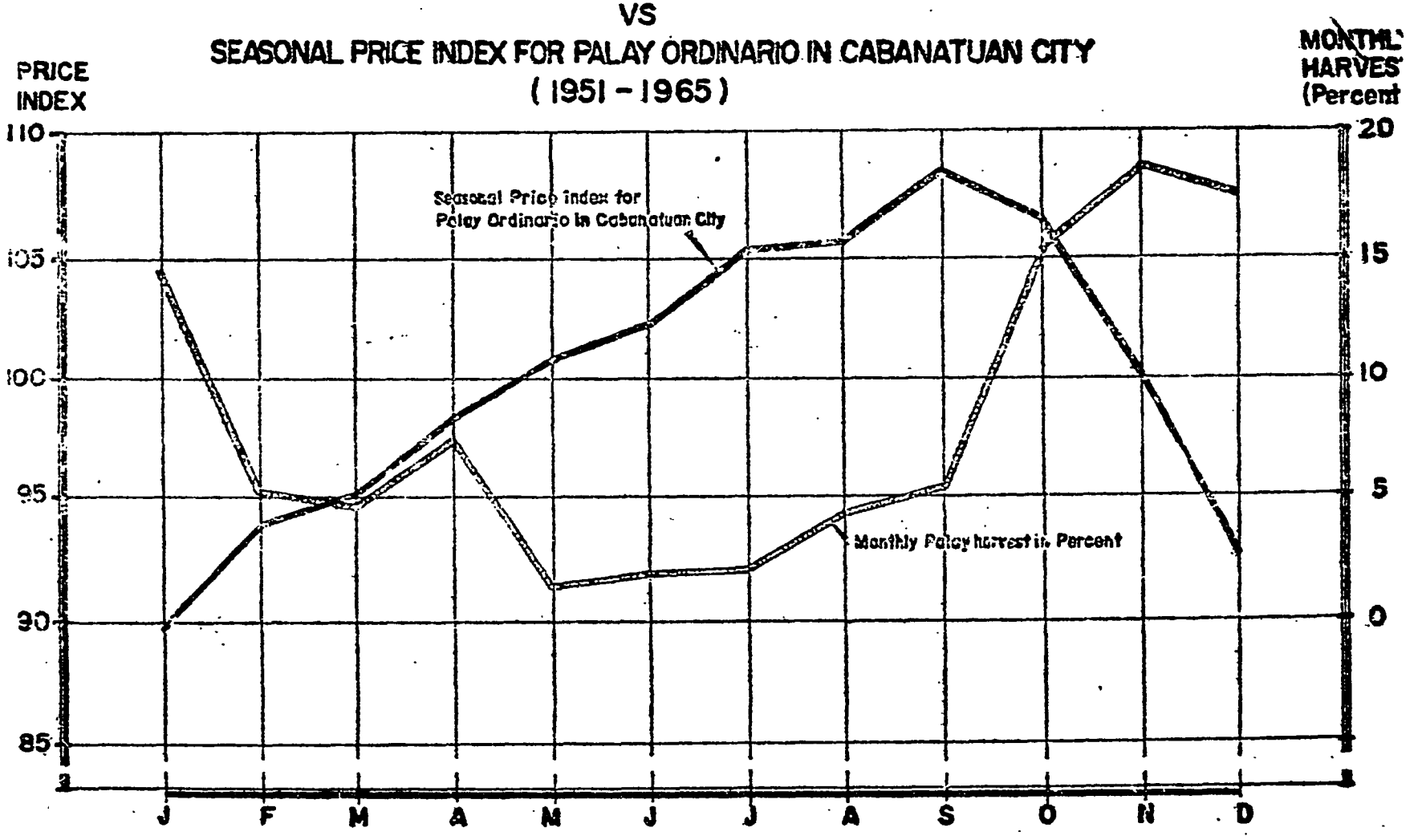
however, the Philippines had continuously depended upon importation and that these desired imports were not totally received due tc foreign exchange difficulty. It is hoped, therefore, that this data on hand is sufficient to analyze the impact of low productivity on the health of the population. From Table A 5, it may be noted that during the crop year 1966 and 1967, the Philippines is only 86.5 per cent adequate in its supply of milled rice for human consumption. The situation should have been worse had there been no rice importation equivalent to 172,000 metric tons of milled rice during the period. Likewise, 26,000 metric tons of shelled corn and 610,000 metric tons of wheat flour were also imported during the same period.52/ Based on Table A 6, indicating that the apparent absorption of milled rice in the Philippines from 1946-65 ranged from 76.6 kilos per capita per year and the recommended allowance of 102.9 kilos per capita per year, one could safely conclude that the Philippines had not adequately supplied the rice supply for human consumption. There was then a state of hunger during those periods.

As to the degree of calorie intake, Table A 7 indicates, during the crop years 1966 and 1967, which might have been the same for all the years, that the calorie intake is only 91.5 per cent adequate. Again, compared to the intake of protective foods, the sufficiency is only 94.1 per cent, thus indicating that the quantity of food intake is more or volume, rather than quality. There was, therefore, a state of malnutrition and hunger during all the years from 1946-65, or perhaps until the present.

52/ - NEC, OSCAS, The Statistical Reporter XII, No. 4 (October-December, 1968), Table 1, p. 19.

C H A R T 4

MONTHLY HARVEST OF PALAY IN THE PHILIPPINES
VS
SEASONAL PRICE INDEX FOR PALAY ORDINARIO IN CABANATUAN CITY
(1951 - 1965)



Source: Rice and Corn Administration, Ibid., p. 8.

TABLE A 4

PHILIPPINES: PRODUCTION, CONSUMPTION REQUIREMENT, AND IMPORTATION[a/]
(milled rice in metric tons)

Crop Year or Average for Period	Production[b/]	Importation[c/]	Consumption	Percent Importation
1946-47	1,262,431	83,880	1,345,221	6.6
1947-48	1,354,596	96,656	1,451,252	7.1
1948-49	1,505,984	135,576	1,641,560	9.0
1949-50	1,575,362	neg.	1,575,362	-
Sub-total ----	5,698,373	316,112	-	5.5
1950-51	1,581,608	129,864	1,711,472	8.2
1951-52	1,711,186	63,112	1,774,298	3.6
1952-53	1,900,641	neg.	1,900,641	-
1953-54	1,923,780	42,616	1,966,396	2.2
1954-55	1,935,319	63,504	1,998,823	3.2
Sub-total ----	9,142,534	299,096	-	3.3
1955-56	1,978,492	42,392	2,020,884	2.1
1956-57	2,022,381	77,896	2,100,277	3.8
1957-58	1,936,270	230,664	2,166,934	11.9
1958-59	2,227,015	6,496	2,233,511	0.2
1959-60	2,260,261	neg.	2,260,261	-
Sub-total ---	10,421,419	57,448	-	3.4
1960-61	2,239,256	9,200	2,248,456	0.4
1961-62	2,363,345	30,560	2,393,905	1.3
1962-63	2,397,753	4	2,397,757	-
1963-64	2,322,730	298,858	2,621,588	12.9
1964-65	2,413,154	599,560	2,972,714	24.8
Sub-total ----	11,736,238	938,182	-	8.0

a/ - Frank H. Golay and Marvin E. Goodstein, Rice and People in 1990 (Manila: U.S. AID, 1967), Table A 6, p. 48.

b/ - Production in palay was converted to milled rice by deducting 7% as wastage and seeds. For the 93% which is milled, the recovery rate is assumed to be 65%. To obtain estimated production of milled rice, multiply palay by the factor, .06045 (.95 x .65).

c/ - Philippines, Bureau of Census and Statistics, Foreign Trade Statistics of the Philippines (Manila: Typescript, n.d.) pp. 3-4.

TABLE A 5

DAILY RECOMMENDED PER CAPITA FOOD ALLOWANCE WITH DAILY PER CAPITA FOOD SUPPLY, CY 1966 and 1967 AVERAGE

	Recommended Allowance Per Capita Per Day in Grams 1/	Food Supply Available for Human Consumption in Per Capita Per Day (Grams) 2/	Per cent of Sufficiency
Total per capita	1,116	980	87.8
I. Vegetable Origin	907	794	87.8
1. Cereals and Cereal Products	385	121.5	86.5
Rice (Milled)	282	83.9	81.6
Corn (Milled)	70	24.6	95.7
Wheat Flour	33	13.0	109.1
2. Roots and Tubers	78	36.4	128.2
3. Sugars and syrups	20	17.8	245.0
4. Dry beans and nuts			
5. Fruits and Vegetables	384	73.8	52.6
Leafy and yellow vegetables	106	9.9	25.5
Vitamin C-rich foods	130	10.6	22.3
Other fruits & vegetables	148	53.3	98.6
6. Fats and Oils (including coconut)	20	4.7	65.0
7. Coconuts for food	-	14.2	-
8. Miscellaneous	-	19.7	-
II. Animal Origin	209	67.6	88.3
1. Meat and poultry	58	17.7	84.5
2. Fish & marine prods	100	32.8	90.0
3. Milk & Milk products	40	14.7	100.0
4. Eggs	11	2.4	63.6

1/ As revised by the Food and Nutrition Center, NIST, NSDB. (mimeographed).

2/ Source: Calendar Years 1966 and 1967 Food Balance Sheet of the Philippines.

TABLE A 6

PHILIPPINES: NET IMPORTS AND APPARENT ABSORPTION OF MILLED RICE
1946-1965

	Production of Milled Rice in M.T.	Net Import Milled Rice Equivalent	Availability Milled Rice in M.T.	Apparent Per Capita Absorption of Milled Rice in M.T.
1946-47	1,262,341	83,880	1,345,221	75.6
1947-48	1,354,596	96,655	1,451,252	85.8
1948-49	1,505,984	135,576	1,641,560	83.4
1949-50	1,575,362	neg.	1,575,362	77.7
1950-51	1,581,608	129,864	1,711,472	81.9
1951-52	1,711,186	63,112	1,774,298	82.4
1952-53	1,900,641	neg.	1,900,641	85.6
1953-54	1,923,780	42,616	1,966,396	86.0
1954-55	1,934,319	63,504	1,998,823	84.8
1955-56	1,978,492	42,392	2,020,884	83.2
1956-57	2,022,381	77,896	2,100,277	83.9
1957-58	1,936,270	230,664	2,166,934	84.0
1958-59	2,227,015	6,496	2,233,511	84.0
1959-60	2,260,261	neg.	2,260,261	82.5
1960-61	2,239,256	9,200	2,248,456	79.4
1961-62	2,363,345	30,560	2,393,905	81.8
1962-63	2,397,753	4	2,397,757	79.3
1963-64	2,322,730	298,858	2,621,588	83.8
1964-65	2,413,154	559,560	2,972,714	91.9

Source of Data: Frank H. Golay and Marvin E. Goodstein, Rice and People in 1990 (Manila: U.S. AID, 1967), Table A 6, p. 48.

TABLE A 7

DAILY PER CAPITA CALORIE AND NUTRIENT SUPPLIES, CY 1966 and 1967

Food Items	Calorie		Protein		Fats	
	Number	Distribution	Grams	Distribution	Grams	Distribution
Total per capita	2,013	100.00	50.93	100.00	31.3	100.00
I. Vegetable Origin	1,713	89.1	32.2	63.3	17.1	54.6
1. Cereals	1,222	60.7	26.7	52.5	2.4	7.7
Rice (milled)	847	42.1	17.0	33.4	1.1	3.5
Corn (milled)	245	12.2	5.9	11.6	0.8	2.6
Wheat flour	130	6.4	3.8	7.5	0.5	1.6
2. Roots and Tubers	105	5.2	0.8	1.6	0.3	1.0
3. Sugars & syrups	187	9.3	-	-	-	-
4. Dry Beans & nuts	19	1.0	1.1	2.2	0.7	2.2
5. Fruits & Vegetables	101	5.0	2.0	3.9	0.6	1.9
Leafy & yellows	7	0.3	0.5	1.0	0.1	0.3
Vitamin C-rich	12	0.6	0.1	0.2	0.2	0.3
Other fruits & vegetables	82	4.1	1.4	2.7	0.4	1.3
6. Fats (inc. coconut)	112	5.6	-	-	12.8	40.9
7. Coconuts for food	10	0.5	0.7	1.4	-	-
8. Miscellaneous	37	1.8	0.9	1.8	0.3	1.0
II. Animal Origin	220	10.9	18.7	36.7	14.2	45.4
1. Meat and poultry	127	6.3	8.1	15.9	9.7	31.0
2. Fish & other marine products	58	2.9	8.5	16.7	2.2	7.0
3. Milk (whole)	26	1.3	1.4	2.7	1.5	4.8
4. Eggs	9	0.4	0.7	1.4	0.8	2.6

Source: OSCAS, The Statistical Reporter, XII, No. 4 (October-Dec., 1968), Table 3, p. 20.

1/ - Compared with the recommended allowance of 2,200 calories, it is 91.5 per cent sufficient.

2/ - Compared with the recommended allowance of 54.1 grams, it is 94.1 per cent adequate.

CHAPTER IV

THE RICE PRODUCTION BREAKTHROUGH

The discussion in Chapter III has shown that the Philippines had suffered from shortage in domestic production caused by a number of problems, which were analyzed in detail. In view of these problems and the determination of the government to solve the problems of underproduction, an Act known as the Rice and Corn Production Program was enacted into law on June 18, 1958. The Act declared it a national policy to attain self-sufficiency in rice and corn at the earliest possible time and to insure stability in the production of these cereals. The Act also provided that the Rice and Corn Production Program shall be managed by a Rice and Corn Production Coordinating Council (see Appendix 1).

This chapter is an appraisal of the Rice and Corn Production Program and an analysis as to how the rice production breakthrough was achieved. By breakthrough, is meant the attainment of surplus production over the normal consumption requirement.

The appraisal is based on the knowledge and experience of the writer in connection with his twelve years of actual work within the program, as well as on annual reports of activities and accomplishments, and other relevant information on the subject.

The Past Program

The Rice and Corn Production Program has been implemented from 1958 to the present. During its implementation, the composition of the Rice and Corn Production Coordinating Council and the methods of implementation had undergone several changes. For instance, from 1958 to 1959, the Chairman and Coordinator of the Council was the Director of the Bureau of Plant Industry. From 1959 until the present, it is the Secretary of Agriculture and Natural Resources who has assumed the position of Chairman and Coordinator of the Council and the Director of the Bureau of Plant Industry was become the Vice Chairman and Vice Coordinator. From 1958 to 1965, the program also provided subsidized fertilizers and seeds, and free agricultural chemicals, in addition to its usual technical assistance to the farmers. Starting 1966, the subsidies on fertilizers, seeds and free chemicals were terminated.

The yearly implementation of the program is governed by the policies, rules and regulations prescribed by the Council, in

addition to the Special Provisions of the General Appropriation Act. Appendix 2 shows the Special Provisions of the General Appropriations Act for the Fiscal Year 1958-59, and Appendix 3, the Special Provisions of the General Appropriations Act for the fiscal year 1969-70.

Despite the intensive implementation of the program from 1958 to 1965, it has failed to achieve self-sufficiency in rice and corn but has achieved the following: (a) educated and trained thousands of farmers on the use of fertilizers, improved seeds and agricultural chemicals, and the adoption of improved farm practices; (b) established experiment stations and seed farms, seed testing laboratories, soils laboratories, and regional and provincial offices of most of the participating agencies; (c) trained personnel and farmers, who were the mainstay of the present program; (d) proved that the yield of over 200 cavans per hectare can easily be attained with the use of proper production inputs and cultural practices; and (e) contributed increased production to the overall supply of rice and corn.

The failure of the program to achieve self-sufficiency was caused by a number of factors, foremost of which were the lack of irrigation, lack of effective coordination, lack of adequate production inputs including credit, ineffective communications of technical information from scientists and researchers, and so forth, which were fully discussed in the preceding chapter.

There was also a change in administration 1965, which resulted in the change of the implementation of the program, hence, the classification of the past and present program in the presentation.

The Present Program

With the coming of the new administration, the President has directed the reorganization and revitalization of the past program to orient it to the gigantic task of achieving a self-sufficiency at the earliest possible time. Executive Order No. 50, series of 1966, was issued, vesting the Rice and Corn Production Coordinating Council with the sole power and responsibility of implementing the Rice and Corn Production Program. The Order also directed the Budget Commission, the National Irrigation Administration, the Irrigation Service Unit, the Bureau of Agricultural Economics, and all other agencies that have something to do with rice and corn production to actively participate and cooperate in the implementation of the Rice and Corn Production Program (see Appendix 4).

With the Presidential mandate given the Rice and Corn Production Coordinating Council, a thorough review and evaluation of

the problems of the past programs was made and remedial measures instituted. As a result of the reorganization of the past program, a better coordinated and unified organization came into in order to execute the revitalized production drive.

The Central Organization.

As provided in the Special Provisions of the General Appropriations Act and Executive Order No. 50, the Council marshalled all other agencies that have to do with rice production, processing and marketing. This increased the membership of the Council from six to twenty-one. The President, besides taking an active hand in the implementation of the Rice and Corn Production Program, has assigned no less than the Executive Secretary as the Action Officer of the Rice and Corn Production Coordinating Council.

The Organization Chart of the Council is shown in Appendix 5 and the composition of the Council in Appendix 6.

Organizations and Methods Offices.

The Council had organized a Technical Staff or a Secretariat, headed by an Executive Director and a member of the Council. The Technical Staff is composed of high-caliber personnel, drawn from the member agencies of the program. This Staff performs the duties of organization and methods offices or "O and M". The creation of a strong technical staff is one big difference from the past program. In the past, there was a Technical Working Committee, composed of representatives of the member agencies, but each member did not work regularly under the Council. There were no "O and M" offices except the personnel of the Bureau of Plant Industry, the Director of which was the Vice Chairman and Coordinator of the Council.

Field Organization

The country was divided into priority province, according to the best potential for rice production. Each priority province is headed by a provincial director and assisted by a deputy provincial director. The provincial executives of each of the member agencies form the provincial technical staff of the provincial director. The provincial director is given full authority and responsibility in implementing the program in his province. Under his direct control and supervision are district production supervisors and production technicians. Under a district supervisor are at least ten production technicians who are assigned at least 300 hectares of irrigated riceland each to personally supervise and attend to. The production technicians work directly with the farmers by extending the necessary technical assistance.

In the past program, the country was not divided into priority areas and the personnel was thinly scattered throughout the irrigated areas in the country. There were organized regional rice and corn production coordinating committees, composed of the regional heads of each of the participating agencies. Each committee was headed by a chairman selected from among the members. On the provincial level, there were provincial rice and corn production action committees, composed in turn of the provincial heads of each of the member agencies. The provincial committee is also headed by a chairman selected from among the members.

The provincial directors, under the present program, receive instructions and directives directly from the Rice and Corn Production Coordinating Council. However, in view of the limited resources of the program, concentration of efforts is given to provinces belonging to the first priority; the second and third priority provinces are left to the regular member agencies to support the personnel and supply the facilities from their own funds. This situation brought about some difficulties, since existing resources of the agencies concerned were also limited.

The first priority provinces, numbering fourteen provinces at present, receive full assistance in terms of personnel, funding, and facilities. Each province is given a radio transmitter with two way radios mounted on the vehicle of the provincial director, full support of production inputs including credit, and regular travel allowance for the personnel. The second and third priority provinces do not enjoy these privileges in view of limited resources.

The map of the Philippines showing the locations of the priority provinces is shown in Appendix 7.

Goals and Target of the Program

The goal of the program is to attain rice self-sufficiency by the end of crop year 1968-69. The incremental yields were to be attained by working on a target area of 250,000 hectares in 1967-68, 450,000 hectares in 1968-69, and 750,000 hectares in 1969-70. The yearly target areas are to be planted with high yielding varieties. The high yielding varieties were produced by the International Rice Research Institute, the Bureau of Plant Industry, and the U.P. College of Agriculture. These varieties are capable of producing over 300 cavans per hectare, when given the necessary inputs and cultural practices. At present the high yielding varieties consisted of the IR-8, IR-5, C-18, BPI-76 and C-4. The first two varieties were produced by the International Rice Research Institute, the C-18 and C-4 by the U.P. College of Agriculture and the BPI-76 by the Bureau of Plant Industry.

The goals of the program from 1967-68 through 1969-70 are shown in Table 5 below:

TABLE 5

NATIONAL RICE PRODUCTION GOALS

ITEM	Crop Year 1968	1969	1970
1. Programmed area (Ha.)	250,000	450,000	750,000
a) Wet Season	200,000	380,000	660,000
b) Dry Season	50,000	70,000	90,000
2. Normal production in cavans	95,499,000	96,838,000	98,157,500
3. Incremental output in programmed areas (cavan)	10,520,700	21,904,000	34,833,500
4. Total Palay Production in cavans	106,019,700	118,742,000	132,991,000
5. Palay Consumption requirement (cavan)	108,875,000	111,884,000	115,686,000
6. Surplus (+) Deficit (-)	-2,855,300	+6,858,000	+17,305,000
a) Milled rice	-1,456,203	+3,497,580	+ 8,825,550
b) Milled rice in MT	-81,547	+195,864	+494,231

Source of Data: DANR, Rice and Corn Production Coordinating Council, Four Year Rice Self-Sufficiency Program, (Diliman, Quezon City: mimeographed, 1967), p.29.

Strategies of Implementation and Salient Accomplishments

The Rice and Corn Production Coordinating Council (RCPCC), with the steadfast leadership of the President and the unified organization, laid down the following strategies to achieve self-sufficiency in rice and corn: (a) adequate supply of high yielding varieties (HYV's) and other production inputs, (b) improvement and expansion of irrigation, (c) farm credit, (d) correct farming practices, (e) pest and disease control, (f) training of personnel and farmers, (g) price support and (h) greater participation of the private sector. In pursuing these strategies, the policies were to intensify cropping,

application of the limited resources in priority areas, consolidation and integration of efforts of all government agencies, and the encouragement of the greatest participation of the private sector.

The above strategies and policies were responsible for the attainment of the breakthrough in rice production, as shown by the following accomplishments:

Supply of High Yielding Varieties and other Inputs

The Rice and Corn Production Coordinating Council in 1966 was greatly impressed by the yield performance of the IR-8-288-3,1/ a rice variety developed by the International Rice Research Institute, which at that time yielded about 150 cavans per hectare. The RCPCC then made arrangement with the IRRI for the supply of 1,000 cavans of the seeds for multiplication. The seeds were acquired and distributed to selected multipliers. The produce of the seed of the seed multipliers were redistributed to more farmers. The RCPCC has also approved the introduction of the BPI-76 (non-seasonal) and the C-18 produced by the Bureau of Plant Industry and the U.P. College of Agriculture, respectively. About 600 cavans of the BPI-76 and 100 cavans of the C-18 were released to selected farmers for multiplication.

These three rice varieties were baptized by the Council's "high yielding varieties" or HYV's, in view of their high yield performance. After just one crop season, about 18,000 cavans of the seeds were purchased from the selected seed multipliers and distributed to farmers throughout the country, giving more preference to the first priority provinces.2/

As a result of the intmoduction of the HYV's, a total of 390,294 hectares were planted in 1967-68, 606,495 hectares in 1968-69, and in the initial report for the current fiscal year, a total of 659,153 hectares were already planted. The national average production of the HYV's was 74.86 cavans per hectare in 1967-68, 71.90 cavans per hectares in 1968-69, and the partial harvest report during the current fiscal year shows an average of 71.74 cavans per hectare.

1/ - IR-8-288-3 is the original name of the variety, which was later shortened to IR-8 by the International Rice Research Institute.

2/ - The author was responsible in the distribution of the initial seed stocks of IR-8-288-3, BPI-76 and C-18 at the start of the program, extended regular inspection of the farmer-recepients of the seeds, and the purchase and distribution of the seeds.

Compared with other varieties, the seedboard varieties yielded an average of 47.72 cavans per hectare in 1967-68, 43.36 cavans per hectare in 1968-69, and 53.19 cavans per hectare in 1969-70. The local varieties yielded an average of 35.37, 32.69, and 34.05 cavans per hectare during the same respective periods.3/

The HYV's accounted for 26,386,227 cavans palay, or 22 per cent of the total production of 119.3 million cavans; 37.9 million cavans in 1968-69, and 29.4 million cavans out of the national rice production of 108,391,480 cavans and 69.5 million cavans in 1968-69 and 1969-70 respectively.4/

The area planted and production of palay, by variety, during the three-year period is shown in Table A 7.

Before the introduction of the HYV's, the common varieties planted were the seedboard and local varieties. The seedboard varieties are mostly non-responsive to heavy fertilization and are lodging, hence, their yield potential are very much limited. The local varieties, on the ohter hand, are tall, lodging, late maturing, impure and degenerated.

The quantified impact of planting high yielding varieties may be summarized using the data on Table A 8, page 80 as follows:

a. The estimated palay production, in the crop year 1968-67, amounted to about 119.3 million cavans out of which about 26.4 million cavans or 22 per cent of the total production were from high yielding varieties, about 26.2 million cavans from seedboard varieties, and about 66.7 million cavans from local varieties. The average yield of the HYV's during the same year was 74.86 cavans per hectare, as against the 47.72 cavans and 35.37 cavans of the seedboard and local varieties, respectively. Now the impact of HYV's may be measured this way. Suppose there were no HYV's then at that time, what would have been the total rice production? By assuming the area planted with HYV's would have been planted by the seedboard varieties, then the national production would have been about 109.7 million or even lower than some of the areas planted with local varieties, whose national average production is only 35.37 cavans per hectare.

3/ - Seedboard varieties are the standard varieties approved by the Philippine Seed Board after passing the required preliminary and regional tests. The IR-8-288-3 was developed for about six years and the BPI-76 for 14 years. Local varieties are those planted by the farmers without the benefit of improvement either through selection or breeding.

4/ - Rice and Corn Production Coordinating Council, Annual Reports for 1967-68, 1968-69 and Progress Report for the Month of March, 1970 (Quezon City: mimeographed, 1968, 1969, 1970), various pages.

b. Using this same table, the HYV's during the crop year 1968-69 accounted for about 37.9 million cavans out of the total palay production of about 108.4 million cavans. Again, suppose the HYV's were not yet available, then the national production would have been about 93.4 million cavans, or even lower.

c. Based on Table A 10, page , the consumption requirement for 1967-68 amounted to about 104.0 million cavans of palay or about 55.1 million cavans of milled rice. Similarly, the consumption requirement for the crop year 1968-69 amounted to about 108.1 million sacks of palay or about 57.3 million sacks of milled rice. Now, deducting these consumption requirements from the production of about 109.7 million cavans from item a, the deficit in the Philippines for the crop year 1967-68 could have amounted to about 5.7 million cavans of palay. For 1968-69, the deficit would be about 5.3 million cavans of palay. With the planting of the HYV's, the Philippines had surplus stocks of about 11.2 million at the end of crop year 1968, and about 12.0 million cavans palay during crop year 1969.5/

d. In addition to the incremental yield due to the planting of high yielding varieties, there were 234,530 farmers served during the crop year 1967-68 and 358,536 farmers in 1968-69, who were expected to transmit to other farmers the skills and experiences they have learned in the culture of high yielding varieties.

As to the supply of other production inputs, the Agricultural Credit Administration has distributed a total of 858,399 bags of various grades of fertilizers worth P11 million, during the crop years 1967-68 and 1968-69. A total of 32,539 bags of Gamma BHC, valued at P873,799.00, were also distributed by this same agency during this same period.

The fertilizers and insecticides were distributed either in cash or on credit payable after harvest.6/

The Bureau of Plant Industry produced a total of 136,222 cavans of foundation, registered and certified seeds during the crop year 1967-68, 118,614 cavans in 1968-69, and as of March, 1970, a total of 57,867 cavans.7/

5/ - A crop year starts July 1 and ends June 30 of the following year similar to a fiscal year.

6/ - Rice and Corn Production Coordinating Council, Annual Reports for the Fiscal Years 1967-68, 1968-69 (Diliman, Quezon City: mimeographed, 1968 & 1969), pp. 5-6, 8-11.

7/ - Bureau of Plant Industry, Annual Reports for the Fiscal Years 1967-68, 1968-69, pp. 3-6 and Ibid, pp. 8-9

The Bureau of Plant Industry produced foundation and registered seeds in its experimental stations and seed farms. Certified seeds are produced by private seed growers under the supervision of seed inspectors, under the Bureau of Plant Industry. It has also seed testing laboratories that takes care of the laboratory certification of seeds.

Irrigation development.

Irrigation development consisted of the rehabilitation of existing systems and the construction of new ones. There are four principal agencies involved in this project, namely: the National Irrigation Administration, the Irrigation Service Unit for pump irrigation, the Presidential Arm on Community Development and the National Irrigation for communal irrigation systems, and the Agricultural Productivity Commission for pump demonstration.

During the fiscal years 1967-68 and 1968-69, a total of 314,999 hectares were generated by the four agencies, of which 190,670 hectares were generated during the 1967-68 period and 124,329 hectares in 1968-69. In 1966-67, only 25,696 hectares were attended to, due to lack of funds.

The comparative yearly accomplishment on irrigation development is shown in Table 6 below.

TABLE 6

ACCOMPLISHMENTS IN IRRIGATION DEVELOPMENT FY 1967-68 and FY 1968-69

	FY 1967-68	FY 1968-69
1. Rehabilitation of existing Systems in Hectares		
Gravity (NIA)	25,500	2,000
Pump (ISU)	14,227	17,300
Total -------	39,727	19,300
2. New Systems (Ha.)		
Gravity (NIA)	41,750	24,800
Communal (NIA)	16,715	13,798
Pump (ISU)	65,773	48,829
Pump (APC)	5,700	-
Communal (PACD)	21,005	17,602
Total -------	150,943	105,029
GRAND TOTAL -------	190,670	124,329

Source of Data: Annual Reports of the Rice and Corn Production Coordinating Council for Fiscal Years 1968 and 1969, Appendix H.

From the foregoing table, the impact of the newly generated irrigated areas was 3,622,620 cavans of palay in 1967-68 and 2,521,956 cavans of palay in 1968-69, based on the average incremental yield of 12 cavans per hectare.8/ The breakdown of the impact of irrigation on rice production is shown in Table 7 below:

TABLE 7

ESTIMATED IMPACT OF THE NEWLY IRRIGATED AREAS ON RICE PRODUCTION DURING FY 1967-68 and FY 1968-69

	FY 1967-68	FY 1968-69
1. Average yield per hectare of irrigated lowland rice	41	41
2. Average yield of non-irrigated lowland rice	29	29
3. Difference in yield	12	12
4. Newly Irrigated Area (Ha.)	150,943	105,029
5. Incremental yield in one season (3 x 4)	1,811,315	1,260,348
6. Incremental yield in one year (5 x 2)	3,622,620	2,521,956

NOTE: The incremental yield due to the rehabilitation of existing irrigation systems is not included.

Agricultural Credit. One of the causes of low productivity is the inadequacy of adequate financing available to farmers and traders. In view of this, the Rice and Corn Production Coordinating Council arranged five lending schemes designed to give financial assistance to farmers, cooperatives and traders, namely:

a. CB-IBRD financing for farm mechanization.

b. Agricultural Guarantee and Loand Fund (AGLF) for short, medium and long term loans.

c. Agricultural Credit Administration financing for farmers and cooperatives.

8/ - Based on the original production goals of the Rice and Corn Production Coordinating Council.

d. Development Bank financing for producers and traders.

e. Rural Bank financing for all purpose loans.

The CB-IBRD is administered by the Central Bank through the rural banking system for the extension of loans for the purchase of farm machineries and equipment. Funds for this purpose amounted to ₱14,511,596.00 in 1966-67, ₱35,163,740.00 in 1967-68, and ₱37,863,871.00 in 1968-69 from various sources and the $5 million loan from the International Bank for Reconstruction and Development. Of the amount available in 1967-68, ₱19,414,059 was extended to 139 rural banks which also financed the purchase of 1,899 tractors and tillers, 38 farm implements such as sprayers and dusters; 191 loans for poultry, livestock and fish production; and 268 pumps for irrigation.2/ In 1968-69, a total of 2,562 loans were financed amounting to ₱20,984,214.00.

T h e Agricultural Guarantee and Loan Fund is the first of its kind adopted in the Philippines by tapping the financial resources of the U.S. AID, the Social Security System, the Government Service Insurance System and the national government. The amount of funds under this financing scheme amounted to ₱17,000.00 in 1966-67, ₱29 million in 1967-68, and ₱30.8 million in 1968-69. This financing is administered by the Central Bank through the rural banks. Under this financing system, production loans of farmers need no collateral or security as 70 per cent is guaranteed by the government and 30 per cent by the rural bank concerned. Of the amount available, ₱10,277,178 were extended in 1966-67, ₱28,843,498.00 in 1967-68, and ₱12,355,077.00 in 1968-69.10/ This financing scheme suffers from the difficulty of collecting loans from the farm-borrowers, which may account for the decrease in the amount extended in 1968-69.

The Agricultural Credit Administration extends loans to farmers and cooperatives. During the three fiscal years under review, ₱20,990,106, ₱30,426,287, and ₱28,963,544 were extended during the fiscal years 1966-67, 1967-68 and 1968-69, respectively. Under this financing system, farmers are entitled production loans for the purchase of production inputs and for expenditures on the farm. Commodity loans are extended to farmers who wish to renew their production loans while waiting for a better price of their

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2/ - DANR, Rice and Corn Production Coordinating Council, Annual Report for the Fiscal Year 1968-69 (Quezon City: mimeographed, 1969), Appendix "K".

produce. Marketing and facility loans are extended to cooperatives for the buying and selling of palay and corn and for the purchase of facilities such as rice mills, driers, improvement of existing facilities of the cooperative, and so forth.

The Development Bank of the Philippines and the Philippine National Bank extend agricultural and industrial loans to producers and traders. The DBP extended a total of ₱21,150,811 loans on rice in 1966-67, ₱89,709,292.00 in 1967-68, and ₱114,700.00 in 1968-69.

The summary of accomplishments during the fiscal years 1966-67, 1967-68 and 1968-69 is shown in Table A 9.

Plant Pest and Disease Control

Control of pest and diseases is principally the responsibility of the Bureau of Plant Industry, through actual control operations and assistance to farmers. The major activities undertaken are the control of common pests and diseases, rats and locust. The chemicals used for the control of rats and locust were all supplied by the Bureau of Plant Industry.

The Accomplsihment on this phase of the program is shown below.

TABLE 8

ACCOMPLISHMENTS ON PEST AND DISEASE CONTROL

Fiscal Years 1967-68, 1968-69 and up to March 31, 1970

	FY 1967-68	FY 1968-69	FY 1969-70
1. Common Pests and Diseases			
Area infested (Ha.)	77,953	92,318	75,800
Area treated (Ha.)	75,753	85,457	71,999
Area freed (Ha.)	67,285	76,887	68,782
Farmers served (No.)	62,921	77,987	56,330
2. Rat Control			
Cultivated area			
Area surveyed (Ha.)	605,528	859,518	no report yet
Area treated (Ha.)	290,641	579,841	-do-

Area saved (Ha.)	131,441	473,012	no report
Farmers served (no.)	146,334	39,117	-do-
Uncultivated area			
Barrios infested (no.)	8,810	2,477	-do-
Area blanketed (Ha.)	7,819	32,139	-do-
Area treated (Ha.)	15,831	32,139	
Barrows fumigated (No.)	206,424	315,421	
3. Locust Control			
Area surveyed (Ha.)	5,245	3,055	
Area treated (Ha.)	2,235	86	
Area damaged (Ha.)	59	-	

SOURCE: Annual Reports of the Bureau of Plant Industry.

Correct Farming Practices

In addition to the usual technical assistance to farmers, wide scale demonstration projects were undertaken to educate the greatest number of farmers and to initiate local leadership in the management of the rice industry. The demonstration projects were undertaken with the widest participation of barrio and municipal officials, as well as farm leaders. The demonstration projects were operated by the Bureau of Plant Industry in cooperation with the Chinese Rice Technical Mission to the Philippines, the Agricultural Productivity Commission, and the tie-up of the Philippine National Bank and the Bureau of Plant Industry on supervised credit. There were three project areas operated jointly by the Republics of the Philippines and China. The Chinese Government has sent to the Philippines 25 specialists and technicians to work with Filipino counterparts on rice production. The project areas operated jointly with the Chinese are integrated projects; that is, they include all phases of farm activity such as development of irrigation, organization of farmers into associations, reorganization of farmers' cooperatives, construction of roads, and the production of food crops and livestocks. The project areas, operated by the Agricultural Productivity Commission, are wide scale extension projects, while that of the tie-up of the Philippine National Bank and the Bureau of Plant Industry is special activity of the bank in support of the increased rice production campaign. The PNB has extended special rice financing and supervision of the farmer-borrowers was extended by the Bureau of Plant Industry.

The impact of these demonstration projects may be summarized as follows:

Name of Project	Increase in Production Attained in Cavans
1. Baliuag Rice Production and Extension Project	627,606[1/]
2. Binahaan Tibak Rice Research Demonstration and Production	242,359[2/]
3. San Mateo Rice Production and Extension Project	411,465[3/]
4. San Manuel Rice Production and Extension Project	328,588[3/]
5. San Jose Rice Production and Extension Project	233,240[3/]
6. Zarraga Rice Production and Extension Project	169,483[3/]
7. Iloilo Rice Production and Extension Project	228,134[4/]
8. PNB-BPI Rice Production Tie-up	917,486[5/]
Total Increase in Yield ----------	3,158,361

1/ - Republic of the Philippines and China, Final Report on the Baliuag Rice Production and Extension Project (Bureau of Plant Industry: typescript, n.d.), Table 1. The data covers three crop seasons.

2/ - Emiliano P. Gianzon and Fred Tang, Final Report on the Binahaan Tibak Rice Research, Demonstration and Production Project (Bureau of Plant Industry: mimeographed, n.d.), Table 3 & 4.

3/ - DANR, Rice and Corn Production Coordinating Council, Annual Reports for the Fiscal Years 1967-68 and 1968-69 (Quezon City: mimeographed, 1968 & 1969), Appendix "T". These projects are under the Agricultural Productivity Commission.

4/ - Bureau of Plant Industry, Progress Report on the Iloilo Rice Production Project From November, 1968 to March 1970. (Iloilo: mimeographed, n.d.), p.4 and Appendix B.

5/ - DANR, Rice and Corn Production Coordinating Council, op. cit., Appendix "M".

Government Price Support

The most pressing problem of the farmer is the low price of palay, especially at harvest time. The open market price of palay at the harvest period ranges from ₱13.00 to ₱15.00 per cavan. With low price coupled with the usual low productivity, farmers do not get enough income even for bare necessities of living and for paying back their loans. This condition of low productivity and low price keeps farmers in perpetual debt.11/

To alleviate this miserable plight of the farmers, a government price support for palay, rice, and corn is being implemented with the objective of stabilizing the price of these agricultural products. The present government floor price for palay is ₱16.00 per cavan and ₱13.00 per cavan of corn. There is no ceiling price, indicating that the government can raise the price of palay, rice, and corn above the floor price, if it wanted to. The price support operates in two ways: one is to help the producers and the other is to help the consumers. When the farm price is below the price support, the government enters into the buying of surplus produce of the farmers. When the price of rice is above the price support, the government unloads its stock to keep down the price.

The salient feature of the present price support is the institution of the "quedan system". Under this set-up, producers deposit their produce in designated warehouses, upon which a quedan or warehouse receipt is issued. This quedan or warehouse receipt can just be surrendered to a rural bank of the Philippine National Bank for payment based on the government price support (the price may be ₱16.00 per cavan or higher as the support price has no ceiling). The quedan or warehouse receipt, kept by the paying bank, may be rediscounted with the Central Bank or surrendered to the Philippine National Bank in turn, credits the disbursement to the account of the Rice and Corn Administration, which is guaranteed by the government.

The successful implementation of the price support for palay all over the country resulted in the increase of palay prices from an average of ₱13.40 in the previous years to ₱17.40 per cavan, or a net increase of ₱4.00 a cavan.12/ This increase in price gave incentive to producers to increase their production.

11/ - This statement is substantiated by the fact that at an average production of 28 cavans per hectare and average farm size of 2.98 hectares, the income of the farmers is not even enough for food expenditure as presented in the analysis of the impact of low productivity.

12/ - Rice and Corn Administration, Annual Report for the Fiscal Year 1966-67 (Quezon City: Government printing, Dec. 1967), p. 9.

The success in the implementation of the "quedan system" of palay procurement, as required by law, was due to the following:

a. Enabled the Rice and Corn Administration, despite its limited capital, to go into massive local procurement of palay through rediscounting of quedans, and making use of the financial resources of banking institutions;

b. Transferred to private enterprise most of the government operating functions such as warehousing, milling and transportation of stocks, thus reducing the overhead expenses and losses; and

c. Made possible the distribution and sale of stocks with the rural banks, receiving and accounting for the proceeds of sales, thereby liquidating the quedan without malversation of funds.

Training and Manpower Development

This is one factor that cannot be overlooked in the analysis of the factors that contributed to the achievement of self-sufficiency in rice. Most developing countries suffer from a lack of well-trained technicians and specialists, who are badly needed for the successful implementation of approved programs. The Philippines is not an exception to this condition. Cognizant of this problem, the Rice and Corn Production Coordinating Council, before deploying the personnel, has undertaken intensive training and re-training of its personnel. Intensive classroom and field work were given to all levels of personnel. The training programs were undertaken in the experiment stations, state universities and commercial farms. Continuous training up to the present, is being undertaken to orient and refresh the personnel on the techniques of raising the high yielding varieties, and to developing their necessary skills and personal interest.

Specifically, the training of provincial executives has the following objectives:

a. To have complete understanding of the various programs and the contributing role each sector and each individual within that sector has toward the attainment of the objectives of the program;

b. To acquire a clear viewpoint of the organizational structure of the implementing arms of the program;

c. To know the definition and specifications of the job activities of various levels of the field personnel;

d. To gain a working knowledge of the basic operating procedures, methods, and systems of administrative control and supervision of personnel to insure maximum efficiency;

e. To acquire knowledge and appreciate the responsibilities of administration and supervision of the program;

f. To identify himself as a determinant in building a unified, cohesive and cooperative spirit among his personnel involved in accomplishing the objectives of the programs.

The training objectives of lower level personnel include the following:

a. To orient the technicians to the goals and programs of the Self-sufficiency Program;

b. To identify the role of the technicians in the implementation of the programs;

c. To develop a keen interest and desirable attitude toward the program and his work;

d. To develop management and supervisory skills necessary to become an effective technician;

e. To keep his abreast in new discoveries and techniques in crop and animal production.

With the intensive training given, the personnel become conversant in their respective activities, which made them able to demonstrate approved techniques with their farmers on the concept of the do-it-with-the-farmers approach.

Participation of the Private Sector

Government programs, in any form of economic system will not succeed unless the private sector actively participates in it. This condition is more crucial in a free enterprise economy where government programs only provide the broad targets and policies, and the private sector is encouraged to participate.

The Philippines, as it is operating on a free enterprise system, cannot perform all the economic activities. The private sector, through its innovative entrepreneurs, must contribute a large share to economic development. As a matter of policy, the bulk of development during the plan period FY 1967-1970 depended mainly on the initiative of the private sector and to a lesser degree on the efficiency of the Government, in accommodating

economic rationality in its political decision processes.[13/]

In the implementation of the Rice Self-Sufficiency Program, it is the farmers, the traders, the financiers, and the people, in general, who performed most of the economic activities. The government only provided the social overhead necessary to guide and stimulate the private sector, built infrastructures, extended financing mostly in the form of farm credit, and provided an atmosphere conducive to the farmers and traders to increase their productivity.

The attainment of self-sufficiency in rice largely depended on the active participation of the private sector in any one or a combination of the following activities:

a. The encouragement to the farmers in adopting the planting of high yielding varieties and in providing the same with approved cultural practices. By so doing, four essentials of production: land, capital, labor, and technology were intensively used. Also, the innovative characteristics of the farmers made them dynamic rather than static.

b. The initiative and risk bearing efforts of the private business in providing an adequate supply of production inputs like fertilizers, seeds, agricultural chemicals, and agricultural machineries and equipment, enabled the farmers to increase their productivity. Private business also organized more sales and distribution networks, together with the promotional efforts, greatly lessen the efforts of the government in its campaign for increased production and relieve the government of financing these activities.

c. The willingness of the traders in rehabilitating, improving and expanding the channels of trade such as warehousing, drying, processing, milling and transporting, improved the marketing and distribution of rice.

d. The response of the civic and religious organizations greatly bolstered the promotional and informational work of the program. These organizations voluntered (mostly at their own expense) to undertake regular radio programs, multiplication and distribution of information materials, production contests with the prizes provided by themselves, and many more activities which in one way or another influenced the greatest participation and support of the greatest number of people.

13/ - Philippines, Four-Year Economic Program for the Fiscal Year 1967-70 (Summary) (Manila: Bureau of Printing, 1966), p. 3.

e. The revitalization of the cooperative marketing movement of the Philippines also greatly influenced the attainment of self-sufficiency. Of the 602 farmers' marketing cooperatives at present, 366 were dealing with rice and corn. The cooperatives, through their management, financing, and technical guidance, have greatly helped their farmer-members enhanced the growth of their cooperatives.

f. Another important sector, that greatly bolstered the attainment of self-sufficiency, is the active participation of the sugar centrals by setting aside wide areas in their plantations for the production of rice. Special mention must be given to the Santos-Lopez Sugar Central of Iloilo, the Tarlac Sugar Central, the Puncan Plantation, and the Pampanga Sugar Central, with whom the writer works personally. These sugar centrals provided all the necessary technical and financing requirements of their rice production projects and their production greatly solved the consumption requirement of their workers.

Impact of the Program on Rice Supply

The final measurement of the success of a program is its effect on the overall economy of the country. For the program, the measurement should be the adequacy of domestic production to meet the consumption requirements. Consumption requirements consist of the allowance for human consumption, feeds for livestocks and poultry, industrial uses, seeds, wastes, and others. The commitment to export should also be taken into consideration, should the country may so desire.

For our purpose, the analysis of the overall impact of the program will be the comparison of estimated supply and the total consumption requirement. During the crop year 1966-67, the total estimated rice supply in the Philippines amounted to 54.0 million cavans of milled rice which was made up of 4.5 million cavans carry-over from last year's supply; domestic production of 48.1 million cavans and an importation of 2.3 million cavans. On the requirement side, the requirement for human food amounted to 48.1 million cavans of milled rice, 5.2 million cavans for feeds, seeds, industrial uses and the allowance for waste, or a total consumption requirement of 53.3 million cavans of milled rice. Subtracting the total requirement from the available supply, there was a carry-over of 1.6 million cavans of milled rice. However, between the total requirement and the domestic production, there was a deficit of 6.3 million cavans of milled rice, and the deficit should have been more had not been for the importation. The rice production breakthrough was achieved during the crop year 1967-68, when the country experienced a substantial carry-over of 11.2

million cavans of milled rice, as a result of the unprecedented increase in domestic production. The estimated rice supply of 66.3 million cavans of milled rice exceeded the consumption requirement of 55.1 million cavans by 11.2 million cavans. On top of this the domestic production of 55.5 million cavans exceeded the consumption requirement by 0.363 million cavans. Due to this breakthrough, efforts were made to export rice in yearly 1968 amounting to 725,840 cavans of milled rice and seeds to South Viet Nam, India, Israel, Indonesia, East Pakistan, and Malaysia. The rice that was exported was taken from the importation in 1966-67.

During the crop year 1968-69, the surplus stock at the end of the year amounted to about 12.0 million cavans of milled rice. Domestic production alone exceeded the total consumption requirement by about 1.5 million cavans of milled rice, despite the export of rice and seeds. During this year, the country suffered the worst drought in fifty years, resulting in about ten per cent reduction in the expected harvest (See Table A 8)[14/]

Impact of the Program on the National Economy

The Rice Self-Sufficiency Program has undoubtedly been responsible for the attainment of the rice production breakthrough. Its impact could be measured by the incremental yield it has contributed to the national economy.

During the fiscal year 1967-68 (see Table A 11), the program spent ₱18.035 million, out of which ₱3.248 million was for infrastructures, ₱8.453 million for current operating expenses, and ₱6.334 million for investment outlay.

During this same period, the program contributed 15.026 million cavans for palay in the form of increased production valued at ₱240.416 million based on the government price support of ₱16.00 per cavan. The incremental yield was obtained with use of the HYV's and the construction of new irrigation systems. The program also served 234,530 farmers with the use of the HYV's (see Table A 12). Based on the incremental yield valued at ₱240.410 million plus the expenditures of the program, the net return per

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14/ - NEC, OSCAS, First Inter-Agency Committee Report on the Rice Outlook of the Country for the Crop Year Ending June 30, 1969 Based on January 1, 1969 Production Forecast (Manila: typescript, March 12, 1969), p. 2

peso invested can be computed by using the following alternatives:

1. Based on the total expendistures for capital outlay current operating expenses, and investment outlay of the program only, and including all other member agencies

The total expenditure of the program during the fiscal year 1967-68 for capital outlay, current operating expenditures, and investment outlay amounted to ₱274.160 million, of which ₱18.035 million was from the regular funds of the program and ₱256.025 million from the regular funds of the member-agencies and the U.S. AID. With the value of incremental yield amounting to ₱240.416 million and the expenditures of ₱274.160 million, the net return per peso investment is ₱0.87. This indicates that for every peso invested, the government is losing ₱0.13. However, the approach is not realistic in view of the following: (a) the expenditure on capital outlay are recoverable after a number of years and not only in one year; (b) the investment outlay is recoverable and, in the case of the agricultural credit, the loans earn interest. Losses occur only in cases of bad debts; and (c) the funds from other agencies could not be fully assumed as totally spent in the rice program. This same could have been spent for other purposes without having been marshalled by the program.

2. Based on the current expenditure.

The current operating expenditure of the program during the fiscal year 1967-68 amounted to ₱32.840 million, of which ₱8.453 million was from the regular funds of the RCPCC and ₱24.387 million from the member-agencies and other sources. Under this approach, the net return per peso investment, the net return is ₱7.32, Taking only the funds of the program, the net return per peso investment would be ₱28.43.

Using this same approach, the net return per peso investment during the fiscal year 1867-68 would be ₱32.65 for RCPCC funds alone and ₱10.00 when all other funds are included.

In summary, therefore, the program contributed ₱240.416 million to the national economy in the form of increased production during the fiscal year 1967-68 and ₱339.424 million in 1968-69. Compared with the current operating expenditures, the net return per peso investment would be ₱28.43 in 1967-68 and ₱32.75 in 1968-69 using only the funds under the RCPCC. When all other funds are included in the computation of the net return per peso investment, the figure would be lower, for instance, ₱7.32 for 1967-68 and ₱10.00 for 1968-69.

TABLE A 8

PALAY AREA PLANTED AND PRODUCTION, FY 1967-68, 1968-69 AND AS OF MARCH OF FY 1969-70

	FY 1967-68	FY 1968-69	FY 1969-70
1. Area Planted (in million hectares)	2.981	2.864	2.046
High Yielding Varieties	.390	.606	.659
Other seedboard varieties	.577	.587	.469
Other varieties	2.014	1.671	.918
2. Area Harvested (Ha.)	2.787	2.505	1.458
High yielding varieties	.352	.527	.409
Other seedboard varieties	.550	.550	.232
Other varieties	1.885	1.428	.817
3. Production (cavans palay)	119.306	108.391	69.534
High yielding varieties	26.386	37.897	29.344
Other seedboard varieties	26.228	23.834	12.363
Other varieties	66.692	46.660	27.827
4. Average yield per hectare	42.80	43.28	-
High yielding varieties	74.96	71.90	71.74
Other seedboard varieties	47.72	43.36	53.19
Other varieties	35.37	32.69	34.05

SOURCE OF DATA: Annual Reports of the Rice and Corn Production Coordinating Council for the Fiscal Years 1967-68, 1968-69 and March 31, 1970 for fiscal year 1969-70.

NOTE:

The decrease in production during the fiscal year 1968-69 was due to the effect of prolonged drought, rat infestation, and the use of varieties which were already impure and degenrated.

TABLE A 9

ACCOMPLISHMENTS IN AGRICULTURAL CREDIT BY TYPES OF FINANCING, FY Years 1967 Through 1969

(In million pesos)

Types of Financing	FY 1966-67	FY 1967-68	FY 1968-69
I. CB-IBRD			
A. Source of Fund			
CB-IBRD	8.232	19.414	20.984
Rural Banks	1.230	1.819	1.837
Borrowers & Users	2.090	4.968	5.206
Dealers	.259	.284	341
AGLF	2.700	8.632	9.448
Others	-	0.048	0.048
Total ----------	14.511	35.165	37.864
B. Loan Releases			
Number of Rural Banks	98	139	206
Tractors and Tillers	6.856	16.961	18.500
Farm Implements	.089	.243	.236
Poultry, livestock and fish	.741	1.266	1.289
Irrigation pumps	.546	.944	.959
Total ----------	8.232	19.414	20.984
II. CB Financing to Rural Banks			
Agricultural	-	363.732	280.833
Commercial	-	42.007	37.369
Industrial	-	12.383	12.658
Other loan advances	-	1.936	1.844
Total ----------	-	419.958	432.704

Cont'd. Accomplishment Agricultural Credit

Types of Financing	FY 1966-67	FY 1967-68	FY 1968-69
III. AGIF - Rural Banks			
A. Sources of Fund			
NEC-USAID	5.000	5.000	5.706
RCPCC	2.000	4.000	4.441
PNB-SSS	10.000	10.000	10.118
GSIS	-	10.000	10.575
Total	17.000	29.000	30.840
B. Loan Releases			
Short-term production	6.812	18.397	5.607
Short-term commodity	.972	1.351	.257
Medium & long term	2.443	8.736	6.491
Total	10.277	28.844	12.355
IV. ACA Credit Program			
Production loans	12.518	22.608	23.380
Commodity loans	-	6.788	4.762
Marketing loans	8.456	.989	.518
Facility loans	.016	.062	.153
Operating Capital	-	-	.150
Total	20.990	30.427	28.963
V. DBP Financing			
Pump Irrigation	15.931	37.942	.115
Warehouse & driers	5.221	51.767	1/
Total	21.152	89.709	.115
GRAND TOTAL 2/	73.653	604.259	520.486

1/ Of the ₱3.018 million approved for terminal warehouses and driers, no amount could be released in view of the lack of available funds.

2/ The amounts did not include the agricultural loans being extended by the Philippine National Bank amounting to ₱435 million 1967-68.

Source of Data: Annual Reports of the Rice and Corn Production Coordinating Council for the Fiscal Years 1966-67 through 1969. The fiscal year starts July 1 and ends June 30 of the succeeding year.

TABLE A 10

PHILIPPINES: RICE SUPPLY AND CONSUMPTION REQUIREMENTS

DURING THE CROP YEARS 1966-67, 1967-68, 1968-69

and 1969-70

(In million Sacks of 56 kilos Milled Rice)

Detail	Crop Year			
	1966-67[a]	1967-68[b]	1968-69[c]	1969-70[d]
I. Estimated Supply	54.824	66.304	69.238	76.870
Carry-over stock	4.469	8.775	11.162	16.673
Est. Domestic Prod.	48.069	55.606	58.803	60.197
Import Arrival	2.286	2.023	-	-
Less Export	-	-	725.840	-
II. Total Requirement	53.343	55.142	57.275	64.710
Annual Food Requirement	48.112	49.800	51.566	58.403
Total Allowances	5.236	5.342	5.709	6.307
III. Surplus (+) Deficit (-) (I-b minus II)	-6.278	+ .363	+1.521	-4.513
IV. Stock at End of Crop Year (I minus II)	1.476	11.162	11.963	12.160

a/ - National Economic Council, OSCAS. Second Inter-Agency Committee Report on Rice and Corn Outlook of the Country for the Crop Year Ending June 30, 1967 Based on October 1, 1966 Rice and Corn Production Forecast (Manila: typescript, Nov. 10, 1966), Table 1.

b/ - National Economic Council, OSCAS. Final Inter-Agency Report on Rice Outlook of the Country for the Crop Year Ending June 30, 1968 (Manila) mineographed, Jan. 13, 1969), Table 1.

c/ - National Economic Council, OSCAS. First Inter-Agency Committee Report of the Rice Outlook of the Country for the Crop Year Ending June 30, 1969 Based on January Production Forecast (Manila: typescript, March 19, 1969), Table 1.

d/ - National Economic Council, OSCAS. Inter-Agency Committee Report on the Rice Outlook of the Country for the Crop Year Ending June 30, 1970 Based on January 1, 1970 Production Forecast (Manila: Typescript, March 19, 1970), Table 1.

TABLE A 11

EXPENDITURES ON THE RICE PROGRAM DURING FISCAL YEARS 1968 and 1969[a/]

(In million pesos)

Phases of the Program	FY 1967-68			FY 1968-69		
	RCPCC[b/]	Other Funds[c/]	TOTAL	RCPCC[b/]	Other Funds[c/]	TOTAL
A. Capital Outlay						
Irrigation	0.150	19.546	19.696	0.280	29.949	30.229
Farm-to-market road	-	2.120	2.120	-	1.583	1.583
Driers & kilos	1.898	-	1.898	1.814	-	1.814
Multi-purpose pavement	1.200	-	1.200	-	-	-
Sub-total	3.248	21.666	24.914	2.094	31.532	33.626
B. Current Operating Expenditures						
Seed production and certification	0.995	-	0.995	0.588	-	0.588
Soil management	1.127	1.680	2.807	0.657	1.680	2.337
Pest & Disease Control	2.432	-	2.432	2.633	-	2.633
Agri'l. extension	1.596	20.246	21.842	1.658	21.842	23.500
Production & Extension Projects	0.649	0.348	0.997	1.650	-	1.650
Training, Education and Instruction	0.237	0.606	0.843	0.200	-	0.200
Research	1.405	-	1.405	1.446	-	1.446
Survey & evaluation	0.012	0.130	0.142	0.100	-	0.100
Technical Staff & Prov'l. Offices	-	1.302	1.302	1.461	-	1.461
Management Audit	-	0.075	0.075	-	-	-
Sub-total	8.453	24.387	32.840	10.393	23.522	33.915
C. Investment Outlay Seed Procurement and Distribution	0.750	2.973	3.723	0.800	-	0.800
Fertilizer procurement and distribution	2.234	4.994	7.228	-	2.056	2.056
Agricultural Credit	3.350	59.355	62.705	4.441	15.000	19.441
Procurement & marketing	-	142.750	142.750	-	-	-
Sub-total	6.334	210.092	216.406	5.241	17.056	22.297
GRAND TOTAL	18.035	256.025	274.160	17.728	71.110	80.838

a/ Based on the financial statements of the Rice and Corn Production Coordinating Council covering the fiscal years 1968 and 1969.

b/ Refers to regular funds of the RCPCC only.

c/ Includes regular funds of participating agencies and other agencies such as NEC-USAID, and others.

TABLE A 12

IMPACT OF THE RICE PROGRAM DURING THE FISCAL YEARS 1968 and 1969[a/]

S U M M A R Y

	FY 1967-68	FY 1968-69
1. Incremental yield (in million cavans)	15.026	21.215
2. Value of Incremental yield (in million pesos)	240.416	339.424
3. Farmers served (number)	234.530	358.536

B R E A K D O W N

	G O A L		PERFORMANCE	
	FY 1967-68	FY 1968-69	FY 1967-68	FY 1968-69
A. From the introduction of HYV's				
1. Area Planted in Ha.	250,000	598,610	390,294	606,495
2. Average Yield/Ha. (cav.)	83.00	80.00	74.86	72.06
3. Average incremental yield per hectares (cav.)[b/]	42.00	39.00	33.86	32.90
4. Total incremental production (million cavs.)	10.500	23.345	13.215	19.954
5. Value of incremental yield in (million pesos)	168.000	373.520	211.440	319.264
B. From the construction of new irrigation systems				
1. Newly irrigated area	100,000	100,000	150,943	105,029
2. Difference in yields[c/]	12	12	12	12
3. Total incremental yield in (million cavs.)	1.200	1.200	1.811	1.260
4. Value in Incremental Yield in (million pesos)	19.200	19.200	28.976	20.160

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a/ An extract from the Annual Reports of the Rice and Corn Production Coordinating Council.

b/ Based figure is 41 cavans, the average per-hectare yield of irrigated riceland using ordinary varieties and culture.

c/ Based on the per-hectare incremental yield of 12 cavans which is the difference between 29 cavans, the average yield for non-irrigated riceland and 41, the average for the irrigated riceland.

CHAPTER V

CONCLUSIONS

The Philippines finally achieved self-sufficiency in rice in 1968 after determined effort for about ten years. As a result of the breakthrough in rice production, the status of the Philippines changed from a rice importing to a rice exporting country. The breakthrough was made possible through the implementation of a Rice Self-Sufficiency Program by a Rice and Corn Production Coordinating Council and was facilitated through the management reforms under taken in revitalizing the production drive. The management reforms were as follows:

1. The executive and legislative leadership exerted by the President, the Vice President, the Executive Secretary, and the members of Congress. The steadfast leadership of the President influenced all levels of the organization in actively participating and cooperating in the implementation of the program. The President assigned no less than the Vice President of the Philippines as Chairman and Coordinator of the Rice and Corn Production Coordinating Council, and the Executive Secretary as the Action Officer. Congress also did its part by providing adequate funds for the various projects and programs.

2. The marshalling of all government agencies that have to do with rice production, processing, marketing and financing for a coordinated and unified production drive. The marshalling of the agencies led to a more adequate supply of personnel, the tapping of additional resources of funds, and better planning and execution of projects and programs in predetermined areas of operation. The assignment of high caliber provincial executives motivated local leadership and initiative. Local governments have also participated actively in the program.

3. Special credit should be extended the International Rice Research Institute for having produced rice varieties that have stiff stem, non-photoperiod sensitive, highly resistant to major pests and diseases, responsive to heavy fertilization, early maturing, and high yielding. The development of the IR-8, IR-5, IR-532 and other varieties has revolutionized the Philippine rice industry. The Bureau of Plant Industry and the U.P. College of Agriculture should be given equal commendation for having developed the BPI-76, and the C-18 and C-4, respectively. The rice varieties produced by

these three agencies were baptized "high yielding varieties" or HYV's, for their extraordinary yield performance. The development of the HYV's, together with the research findings on culture and management, crop protection, soil and fertilizer management, and control of weeds led to the recognition of the value of research which had heretofore been taken for granted.

4. The rehabilitation and improvement of existing irrigation systems and the construction of new ones, coupled with the improved management and operation of the systems, provided adequate water for the rice crops. The generation of newly irrigated areas contributed about three million cavans of palay.

5. The integration of financing institutions in the program, the tapping of the financial resources of the Government Service Insurance System, the Social Security System, the U. S. AID, the CB-IBRD and the national government made available ever a half billion pesos for farm credit to farmers, cooperations and traders. The adoption of the Agricultural Guarantee and Loan Fund enabled farmers to avail of credit without the need for collateral or security for the loans. The availability of credit enabled the farmers to put in more capital, labor and technology in their farms.

6. The income of the government price support from P12.50 to P16.00 per cavan floor price provided incentive to producers to increase their productivity. Likewise, the implementation of the "quedan" system enabled the government to utilize the financial resources of the rural banking system and the Philippine National Bank. These accounted for the successful implementation of the price support.

7. The wide scale demonstration projects undertaken by the Republic of the Philippines and China, the Agricultural Productivity Commission, the Bureau of Plant Industry, the Philippine National Bank, and other institutions as well as the Provincial Development Authorities helped a great deal in the education of farmers and their dependents besides the increased obtained.

8. The response of the farmers in adopting the planting of the HYV's and other varieties and putting in the necessary production inputs and cultural practices bolstered the attainment of increased production. The response of the private business in providing the necessary fertilizers, agricultural chemicals, farm equipment networks greatly helped in the

attainment of rice self-sufficiency. The response of the civic and religious organizations and the mass media greatly helped in the campaign for the greatest participation of the people in the program.

Now that rice self-sufficiency has been achieved, it is time to consider the so-called second generation problems. Foremost among the second generation problems could be presented by asking the following questions:

1. What will happen to the program if the three highest ranking official of the land will no longer give the same determination and leadership that they have previously exerted in the program? Some quarters claim that the breakthrough in rice production was made possible by the assignment of Executive Secretary Rafael M. Salas as the Action Officer of the RCPCC. Now that he has resigned, can the program still garner the same accomplishments? The further success of the program remains to be seen with the new Executive Secretary.

2. Can the Government continuously make tremendous investment in the rice industry and can all the agencies still work as intensively in the program as before? Is the private sector ready to take over the efficient management of the rice industry? As to the first question, there is no doubt that the government is more than compensated. The net return per peso investment using only the current operating expenditures amounts to P7.32 for the fiscal year 1967-68 and P10.00 for 1968-69. However, with the funds of the programs alone, the net return per peso investment are P28.43 and P32.75, respectively, for the same period, indicating that the investment of the government is more than compensated. These accomplishments clearly illustrated that raising domestic production is much more economical than by persistently depending upon importation. However, can the government continuously afford to make tremendous investments? Definitely, with the increased productivity in rice, more income can be derived from the rice industry, hence, one could expect more savings by the farmers. More savings means more taxes. In other words, the rice industry and other industries are mutually reinforcing.

3. The Rice and Corn Production Coordinating Council had been changed to National Food and Agriculture Council by virtue of Executive Order No. 183, series of 1969, in order to be legally able to implement the National Food Production

Program of the country. The National Food Production Program covers not only rice and corn but also fruits and vegetables, feed grains, livestock and poultry, and fish production, however, the problem is, corresponding personnel are not provided for in these new programs. The additional task is given to the already overburdened personnel of the program. To expect the new programs to succeed, it is imperative that the National Food and Agriculture Council shifts its attention to appropriate personnel managment measurea. If the possibility of employing additional personnel is remote because of the limitation of funds, it may be worthwhile considering increasing the existing low salary rates of employees and giving just reimbursement of their traveling expenses.

4. The ultimate objective of agriculture programs is the increase in the real income of the farmers. Of the nearly nine million hectares devoted to food and commercial crops production, are the farmers getting the highest possible net income? To answer the question, the country needs proper land use and classification to show the farmers which crop should be raised profitably and where. Sub-marginal and marginal areas devoted to rice production should be released for other purposes, but no reliable estimates on these areas are available at present. It is necessary for intensive surveys to be conducted, to determine, among others, the most profitable crops that could be raised by the farmers.

5. The demand for food depends on the rate of growth of population and real per capita income. The population of the Philippines is steadily growing at the rate of 3.5 per cent per year, while the real per capita income is growing at the rate of only 2.2 per cent per year. This implies that at least 7.8 per cent food is needed every year at the present levels, if food supply is to remain adequate at the present levels of prices. This implication shows that we need to expand productivity vertically on the existing area under cultivation rather than opening of new lands. The per capita rice areas is consistently decreasing from 0.133 in 1910 to 0.099 in 1965 due to population increase. To increase productivity, we need to expand at a much faster rate the generation of irrigated areas. As per recommendations of the Asian Development Bank representatives who surveyed Asian countries including the Philippines recently, underground source of irrigation is the cheapest means of expanding the irrigated areas in the country. This implies the intensification of hydrology studies, which is new in the Philippines. Present ratio of irrigated area to total area

under cultivation is only ten per cent.

6. As decision-making becomes more complex, adequate information as to production cost, price, cost/benefit, market demand, and consumer's preference are badly needed. This implies that we need more economic intelligence and research, which is still new and, as of this date, no specific agency is responsible for conducting it. Time and again, plan formulation is very much handicapped because of lack of information on these subjects. It is, therefore, necessary that this aspect of research be given equal importance.

7. Now that rice self-sufficiency has been achieved, it is imperative that an export policy be adopted. Some of the policy considerations are: (a) rice export will relieve the country of grave storage problem and losses due to quality deterioration, rodent, insect damage and inadequate storage facilities, (b) the export market should be tested by licensing qualified millers and/traders for specific quantity of rice to be exported. Moderate quantity should be exported in 1970 and, should there be better harvest next year, more will be exported, (c) it will be difficult to capture even a small part of the export market. Therefore, the strategy must be one of planned export rather than just one of dumping of surpluses into the foreign market as these surpluses occur. Philippine traders must get into the foreign market and stay there for a longer period. Planned export was successfully followed in Taiwan in the early sixties when importation was resorted to in order to comply with export commitment. (d) Rice export will give the Philippines the following tangible benefits: (i) export of about 27,000 metric tons of milled rice in 1970 will earn about U.S. $4.320 million in foreign exchange, (ii) accelerate capital formation through the improvement of milling, storage, drying, and marketing facilities, (iii) additional job opportunities, (iv) a better international status of the Philippines, rice export being a sign of economic abundance, and (v) increase purchasing power of the people engaged in the rice industry. (e) To improve the export trade there should be strict adherence to grading and standardization for the maintenance of quality, and rigorous adherence to delivery schedules, proper packaging, and more training and experience.

8. One of the causes of the rice shortages in the country is the inadequacy and inefficiency of the marketing and distribution channels. The rice marketing business is characterized by the predominance of single entrepreneurs who have the tendency to manipulate the market due to the inadequacy and inefficiency of the marketing channels. To improve the marketing system, it is worthwhile considering the provision of an adequate lending program to provide traders with additional operating capital, establish

more storage and warehousing facilities, driers, mills, and transport facilities. Present storage facilities are utterly inadequate; more than half of them will not qualify as bonded warehouses. During the fiscal year 1969-70, no loans for warehouses and driers were extended despite the achievement of rice self-sufficiency.

9. As the Philippines is basically on a free enterprise economy, sustained economic and social development largely depends on the active participation of the private sector. The momentum for development can be stimulated by the government by (a) conducting economic studies and marketing surveys to reveal new opportunities for constructive private entrepreneurs in industry, agriculture, and commerce, taking into account planned economic growth; (b) wider dissemination of information about new opportunities, together with offers of various kinds of help to innovating entrepreneours through research and training centers, advisory councils, adaptive research, and so forth, for imparting new knowledge and skills to managers, technicians, and workers; (c) provision of a realistic production incentive to make farming remunerative; and (d) improvement of land tenure. Although much is being accomplished under the Land Reform Program to improve land tenure system of the country, much more is desired. At the rate share tenancy is being converted into leasehold or owner-operator farming, it will take the Philippines more than fifty years to accomplish its objectives of abolishing share tenancy. The main bottleneck in the Land Reform Program is the very niggardly fund support and the lack of determined effort on the part of the legislative. To make land reform effective, it may be necessary that said organization be headed by the President himself or the Vice President, as what has been done with the Rice Self-Sufficiency Program. It may also be necessary to institute management reforms to make said organization effective in carrying out its objectives. In addition to this, under the Land Reform Program big landed estates are being subdivided into small family size units. The breaking of rice farms into small units might in the long run be uneconomical and unproductive by making rice farming highly labor-intensive. Japan and Taiwan shifted their emphasis of their land reform to land consolidation when it was found out that small farm units were no longer economical and productive. A more thorough study of the land reform as far as the breaking of rice lands into small farm units deserves proper consideration. In line with the objective of increasing the productivity of small farm untis, it is necessary to intensify the organization of farmer's marketing cooperatives not only for the marketing aspect of their produce but for the acquisition of farm machineries and equipment and for organized technical assistance.

10. Lastly, with the achievement of rice self-sufficiency, it is expected that present rice practices will be revolutionized. However, to undertake this will entail a much more technical and material assistance to the farmers, hence, more social overheads and credit are needed.

Fourth Congress
of the
Republic of the Philippines

First Session -93-

Begun and held in the City of Manila, Monday, the twenty seventh day of January, nineteen hundred and fifty eight

-ooOoo-

REPUBLIC ACT NO. 2084

AN ACT TO PROMOTE RICE AND CORN PRODUCTION

Be it enacted by the Senate and the House of Representatives of the Philippines in Congress assembled:

SEC. 1. This Act shall be known as the Rice and Corn Production of 1958.

SEC. 2. It is hereby declared to be the national policy to attain self-sufficiency in rice and corn at the earliest possible time and to provide adequate measures to insure permanent stability in the production of these cereals by marshalling all government agencies to increase rice and corn production at a minimum cost.

SEC. 3. To achieve this objective of increase production, four-year rice and corn production program shall be planned and executed under the direct control and management of a Rice and Corn Coordinating Council to be composed of the Secretary of Agriculture and Natural Resources, as Chairman and Coordinator, the Directors of the Bureaus of Plant Industry, Public Works, Agricultural Extension, Animal Industry, Lands and Mines, the Dean of the U.P. College of Agriculture, a representative of the Department of General Services, the Administrator of the Agricultural Credit and Cooperative Financing Administration (ACCFA), the Manager of the National Rice and Corn Corporation (NARIC), as members. The Council shall be responsible for the success of the promotion of rice and corn production; and it shall formulate the overall policies and methods that will guide the implementation of the program. The Chairman and Coordinator shall be the presiding officer of the Council and shall be primarily responsible for the execution of the policies and methods that the Council shall formulate from time to time, with powers to direct participating agencies to perform their part in the program. The Coordinator, with the approval of the Coordinating Council,

SEC. 4. The rice and corn production program envisioned in the Act shall cover the following phases considered necessary to achieve the immediate objective of increased production of rice and corn, as follows: (1) research and experimentation of seed varieties for both rice and corn; (2) production and distribution of registered and certified seeds; (3) procurement and distribution of certified fertilizers and soil conditioners; (4) control of plant pests and plant diseases; (5) public agricultural information, including demonstration farms; and (6) purchase of modern and corn processing mills.

SEC. 5. During the first, second, third, and fourth of the program, there shall be established under the direct supervision and control of the Coordinating Council the following administrative divisions, namely, (1) Fertilizer and Soil Conditioner Development, (2) Irrigation Development, and (3) Mechanization Development. These three devisions are created to plan, organize, execute the long-range objectives of the program to insure permanent stability in the production of rice and corn. The major functions, respectively, shall be (1) to make surveys of fertilizer and soil conditioner sources of the Philippines; (2) to administer the plans for aid in the constructions of self-help communal irrigation systems in unirrigated rice regions duly organized irrigation associations with the view to increasing acreage of irrigated ricelands for rice production; and (3) to acquire, purchase and make available all mechanized farm implements acquired under this Act and to administer tractor pools that the Coordinating Council may organize for the purpose of increasing acreage for corn production.

SEC. 6. The ACCFA under the supervision of the Rice and Corn Coordinating Council is charged with the purchase, distribution, sale and collection of payments for fertilizers and soil conditioners purchased under this Act and sold or advanced to farmers under the loan plan herein provided, in accordance with quitable distribution of fertilizers and soil conditioners for farmers based on a farmers census consisting of such farmers registered as directly cooperating in the increased production program and to insure further that fertilizers and soil conditioners issued under this Act shall be used for the purpose they are intended and not channeled to balck market: Provided, That fertilizers and soil, conditioners shall be sold in cash or advanced, payable in palay or corn at the end of the harvest; that the quantity of fertilizers and soil conditioners to be sold to farmers per hectare shall be in accordance with the schedule determined by the Council on the basis of the farm area actually under cultivation; that if sold in cash, payment shall not exceed fifty per cent of procurement, handling and storage cost; that if advanced, payable in palay or corn, computation

shall be based on each value of fifty per cent of the procurement, handling and storage of the fertilizer and soil conditioner and the government price for palay and corn; Provided, further, That fertilizers and soil conditioners shall be procured first from locally produced supplies which shall not exceed the cost of imported fertilizers and the balance shall be filled through importation after public bidding conducted by a Committee composed of the Secretary of Finance or his representative as Chairman, The Secretary of Agriculture and Natural Resources or his representative and the Administrator of the ACCFA or his representative as members; Provided, finally, That no fertilizer and soil conditioner shall be sold to farmers without prior analysis.

No fertilizer, soil conditioner or selected seeds shall be resold by any farmer receiving the same from the government. The distributing agency of the fertilizer, soil conditioner or selected seeds shall take all steps to prevent waste and black-marketing of the same, and shall provide the greatest publicity concerning the distribution, giving such information to the barrio councils or to any civic organization requesting such information.

All funds derived from the sale of fertilizers and soil conditioners shall be used exclusively for supplying the fertilizer and soil conditioner of the full-year program.

SEC. 7. The Bureau of Plant Industry shall be charged with the production and administration of certified seeds, until later changed by law, including its purchase and sale to bonafide farmers with priority to farmers included in the census of registered farmers under the supervision and control of the Rice and Corn Coordinating Council in accordance with rules and regulations promulgated by the Council: Provided, That the price of certified seeds shall not exceed the government procurement cost, including handling and storage charges; Provided, further That the recipients of such selected seeds shall not resell or utilized the same for purposes other than planting.

And funds derived from sale of certified seeds shall be used exclusively for the prosecution of the seed production program.

SEC. 8. Insecticides, pesticides, and other supplies used for pest control shall be sold for cash not to exceed fifty per cent of procurement, handling and storage cost or may be advanced payable in palay or corn at harvest time. If payable in palay or corn, computation shall be based on the cash value and government price of the cereal at the time of harvest. The importation

of insecticides shall be used exclusively for the prosecution of the pest control program under this Act.

SEC. 9. Any person who violates any provision of this Act or of any rule or regulation promulgated in accordance therewith or who purchases or otherwise acquires fertilizers and soil conditioners or selected seeds in violation of this ACT, or who, being an officer or employee of the government, violates, abets, or tolerates the violation of any provision of this Act or of such rule and regulation, shall be punished by a fine of two thousand pesos by imprisonment of one year. In case the offender is an officer or employee of the government, he shall in addition, suffer the penalty of perpetual disqualification to hold public office.

SEC. 10. There shall be appropriated out of any funds in the National Treasury not otherwise appropriated, the sum of ten million pesos, fifteen million pesos, twenty million pesos and twenty million pesos for the fiscal years nineteen hundred fifty eight-nineteen hundred fifty-nine, nineteen hundred fifty nine-nineteen hundred and sixty, ninetenn hundred sixty one, and nineteen hundred sixty-one, and nineteen hundred and sixty two, respectively, for the purpose of this Act.

SEC. 11. Subject to adjustments that the Council may deem necessary, the financing of the four-year rice and corn production program should follow the following schedule:

Item	1958-59 (million)	1959-60 (million)	1960-61 (million)	1961-62 (million)
(1) Research	.25	.375	.5	.5
(2) Seed Production	.75	.75	.75	.5
(3) Fertilizer and Soil Conditioners	7.0	1.5	1.5	1.0
(4) Pests Control	1.0	1.5	2.0	2.0
(5) Administration	1.0	1.5	2.0	2.0
(6) Communal Irrigation Projects	None	7.5	10.0	10.0
(7) Rice and Corn Processing Mills	None	.375	1.25	2.0
(8) Mechanization	None	1.5	2.0	2.0

SEC. 12. The budget, together with the production plan for each year of the four-year rice and corn production program, shall be prepared by the Coordinator in consultation with the Council President for approval. All balances at the close of each fiscal year shall, upon recommendation of the Rice and Corn Coordinating

Council, be used to make up the appropriation of succeeding years in the contemplation of this Act: Provided, That the total appropriation shall not be more than twenty million pesos.

SEC. 13. All irrigation projects for areas included under the rice and corn production program under this Act shall be communal in nature and the same shall be constructed and administered by the Bureau of Public Works.

SEC. 14. It shall be the function of the Mechanization Development Division under this Act to coordinate the procurement activities of the Council with the Department of General Services for the purchase of tractors: Provided, however, That to complement the mechanization program, the Bureau of Animal Industry shall procure from the funds thereof additional work animals for sale to farmers on installment basis: Provided, however, That irrespective of source the small diesel-fed and multipurpose tractor which will not displace farm labor shall be preferred. The Coordinating Council, upon the advice of the Director of Animal Industry, shall promulgate the policies, rules and regulations on disposition of work animals acquired in this Act.

The Mechanization Development Division shall organize and maintain tractor pools under the direct administration of the Office of the Highway District Engineer where such tractor rules and regulations on the dispostion of mechanized equipment under this Act.

SEC. 15. The President of the Philippines shall, from time to time and through executive orders, direct and define the participation of the provincial, city, municipal, municipal district and barrio elective officials in the implementation of the said national policy.

SEC. 16. The Monetary Board shall give top priority in the allocation of the necessary foreign exchange for the purchase of fertilizers, soil conditioners, insecticides, pesticides, materials and equipments needed in the implementation of this Act. Failure to comply with this provision without valid reason shall subject the Chairman and the members of the Moentary Board to prosecution and punishment provided for in section nine hereof.

SEC. 17. The rules and regulations herein authorized to be promulgated as well as the amendments thereto shall take effect thirty days after their publication in the Official Gazetter or in a newspaper of general circulation in Manila.

SEC. 18. The Rice and Corn Coordinator shall render a yearly report to the President of the Philippines, the President

of the Senate and the Speaker of the House of Representatives on the operation of the program.

SEC. 19. This Act shall take effect upon its approval.

APPROVED, JUNE 13, 1958

ACCFA, Manila

APPENDIX 2

SPECIAL PROVISIONS

R. A. 2080 (1958-59)

1. Subject to the approval of the Secretary of Agriculture and Natural Resources, the sum appropriated for the control and eradication of agriculture pests and diseases, may likewise be expended by the Director of Plant Industry, if deemed necessary, to carry out the purposes of Section 23 of Republic Act No. 2472; PROVIDED, That in the employment of personnel, preference shall be given to graduates of agricultural schools and colleges.

2. Out of the appropriations for rice and corn production program, there sahll be alloted ₱1,000,000 to the U.P. College of Agriculture for rice and corn research; ₱250,000 to the Bureau of Soils for soil samples and analysis; Provided, That there shall be established in each province an office of the Bureau of Soils; ₱1,000,000 to the Bureau of Agricultural Extension for demonstrations of improved farm practices and farmer's education; and ₱13,600,000 to the Agricultural Credit and Cooperative Financing Administration (ACCFA) for the procurement and distribution of fertilizers and certified seeds; PROVIDED, FURTHER, That this Rice and Corn Production Program shall be under the direct control and management of the Rice and Corn Production Coordinating Council to be composed of the Director of Plant Industry as Chairman and Coordinator, the Directors of the Bureau of Soils and Agricultural Extension, the Dean of the U.P. College of Agriculture and the Administrator of the ACCFA, as members and the procurement and distribution of fertilizers and certified seeds shall be governed by the procedures, rules and regulations to be prescribed by the said Rice and Corn Production Coordinating Council: PROVIDED, FURTHERMORE, That the Central Bank shall provide the necessary dollars for the purchase of insecticides, pesticides, fertilizers, materials and equipment necessary for the implementation of this program: AND PROVIDED, FINALLY, That the Director of Plant Industry is authorized to re-allot any savings realized in allotments provided, for the U.P. College of Agriculture, Bureau of Soils, Bureau of Agricultural Extension, and Agricultural Credit and Cooperative Financing Administration, to any project for proper implementation of the rice and corn production program, subject to the provisions of Commonwealth Act No. 246, as amended:

3. Out of the amount appropriated for the Bureau of Plant Industry ₱35,000 shall be expended for allowances and other expenses of expert, technical and other personnel whom the Director of Plant Industry with the approval of the Secretary of Agriculture and Natural Resources and the President may employ by contract or, otherwise, but this appropriation of ₱35,000 or any part thereof shall not used to pay or increase the salary of persons already in the government service or employed in any bureau or office under the Department of Agriculture and Natural Resources: Provided,

Further, That the amount appropriated for, ₱60,000 may be spent for allowances, transportation and other expenses of not more than six specialists or technical men who may be sent to the United States and other countries: PROVIDED, FURTHER, That the individual monthly allowances for each specialist his annual salary is more than ₱350.00 but if the annual salary is more than ₱4,200 he shall also receive the difference between his salary and monthly allowance of ₱350 such the difference to be paid by the Bureau or Office under which he works, and the specialist or technical man shall be entitled to receive his salary while on official business abroad: PROVIDED, FURTHER, That in the appointment of specialists or technical man, sixty per centum of the aforesaid appropriation of ₱60,000 shall be spent for agricultural training and education: And PROVIDED, FINALLY, That any part thereof and every savings realized from this item may be spent for transportation and other expenses of officials and employees sent for observation, training or attending international conferences.

4. The selection of rice lands for which the sums of ₱20,000,000 is provided in this Act shall be limited to those which have the capability to produce at least 40 cavans of palay per hectare: PROVIDED, That any other appropriation notwithstanding the appropriation provided in the Act shall take precedence.

A True Copy from the Special Provisions of the General Appropriations Act for the fiscal year ending June 30, 1959.

APPENDIX 3

BY THE PRESIDENT OF THE PHILIPPINES

EXECUTIVE ORDER NO. 50

REVOKING EXECUTIVE ORDER NO. 62 DATED JANUARY 15, 1964, WHICH CREATED THE RICE AND CORN AUTHORITY, AND VESTING THE RICE AND CORN PRODUCTION COORDINATING COUNCIL WITH THE SOLE POWER AND RESPONSIBILITY OF IMPLEMENTING THE RICE AND CORN PRODUCTION PROGRAM OF THE COUNTRY.

WHEREAS, by virtue of Executive Order No. 62, dated January 15, 1964, a Rice and Corn Authority was created to coordinate all agencies of the government which have something to do with rice production;

WHEREAS, the Rice and Corn Production Coordinating Council is likewise required by law to have direct control and management of the Rice and Corn Production Program provided under Republic Act No. 2084 and the General Appropriations Acts for the fiscal years 1959 to 1966 and

WHEREAS, in order to avoid confusion amont the implementing agencies, as well as the farmers, there must be only one body to implement the Rice and Corn Production Program;

NOW, THEREFORE, I, FERDINAND E. MARCOS, President of the Philippines, by virtue of the powers vested in me by law do hereby revoke Executive Order No. 62 dated January 15, 1964, creating the Rice and Corn Authority, and direct the Rice and Corn Production Coordinating Council to assume the sole power and responsibility of implementing the Rice and Corn Production Program. It is further directed that the Budget Commission, the National Irrigation Administration, the Irrigation Service Unit, the Bureau of Agricultural Economics, the Rice and Corn Board, and all other agencies which have something to do with rice and corn production actively participate and cooperate with and in the implementation of the Rice and Corn Production Program.

The Rice and Corn Production Coordinating Council shall submit to the President regularly a report on its activities and accomplishments.

Done in the City of Manila, this 7th day of October, in the year of Our Lord, nineteen hundred and sixty-six.

(SGD) FERDINAND E. MARCOS
President of the Philippines

By the President:

(SGD) RAFAEL M. SALAS
Executive Secretary

APPENDIX 4

SPECIAL PROVISIONS

R. A. 6050
(FY 1969-70)

1. Of the amount therein appropriated, the sume of ₱75,000 shall be assessed by the Secretary of Agriculture and Natural Resources, with the approval of the President, on the government owned or controlled corporations under the said department.

2. Out of the appropriations for the Rice and Corn Production Program, there shall be alloted ₱803,720 to the U.P. College of Agriculture for rice and corn research; ₱656,600 to the Bureau of Soils for soil sample analysis; ₱1,658,232 to the Agricultural Productivity Commission for demonstration of improved farm practices and farmer's education; ₱3,746,448 shall be alloted to the Bureau of Plant Industry for rice and corn research, production and distribution of certified seeds and control of rice and corn pests and diseases; ₱4,700,000 and ₱8,000,000 to the Agricultural Credit Administration and Bureau of Plant Industry for the procurement and distribution of fertilizers and certified seeds, respectively, including the necessary personnel and operating expenses pertinent thereto;

PROVIDED, that the fertilizer and soil conditioners to be purchased under this Act shall be obtained from local manufacturers, except when locally manufactured fertilizers are not available in the market, or when the prices of locally manufactured fertilizers exceed that which is determined by the Flag Law by ten per cent; PROVIDED, that the fertilizers and soil conditioners purchased under this act shall be sold in cash or on credit to bonafide farmers included in the program at not exceeding the procurement, handling and storage costs; PROVIDED, that the fertilizers and soil conditioners so purchased shall be used for the purpose intended and not channeled to the black market; PROVIDED, That the Rice and Corn Production Program shall be under the direct control and management of the Rice and Corn Production Coordinating Council to be composed of the Secretary of Agriculture and Natural Resources as Chairman and Coordinator, Director of Plant Industry, the Director of Soils, the Commissioner of the Agricultural Productivity Commission, the Dean of the U.P. College of Agriculture, the Chairman-General Manager of the Rice and Corn Administration and the Administrator of the Agricultural Credit Administration as members and the distribution of fertilizers and certified seeds shall be governed by the procedures, rules and regulations to be prescribed by the said Rice and Corn Production Coordinating Council; PROVIDED, that the Rice and Corn Production Coordinating Council is authorized to use all funds derived from the sale of fertilizers to purchase more fertilizers or to augment authorized loan funds made available to

finance food production and funds from the sale of certified seeds to procure more certified seeds in accordance with the provisions provided herein; PROVIDED, That from the savings of the appropriation from the Rice and Corn Production Program, there shall be alloted, subject to the provisions of Commonwealth Act No. 246, as amended, the amount of not exceeding P150,000 for the staff of the Rice and Corn Production Coordinating Council under the Office of the Secretary of Agriculture and Natural Resources; PROVIDED, FURTHERMORE, That the Rice and Corn Production Coordinating Council is authorized to reprogram any allotment provided for the U.P. College of Agriculture, Bureau of Soils, Agricultural Productivity Commission, Agricultural Credit Administration, and Bureau of Plant Industry and the Agricultural Guarantee Loan Fund to any project proper for the implementation of the Rice and Corn Production Program and PROVIDED, FINALLY, That new corn experiment stations may be opened out of funds from such lump sum appropriation, subject to the provisions of Commonwealth Act No. 246, as amended.

3. The selection of rice and corn lands for which appropriation has been provided in the preceeding paragraph in this Act shall be limited to those which have the capability to produce at least 40 cavans of palay per hectare; PROVIDED, That any other appropriation notwithstanding, the appropriation provided in this Act shall take precedence; PROVIDED, FURTHER, That the Rice and Corn Production Coordinating Council shall by two-thirds vote approve all rice lands chosen as pilot projects for the implementation of this program. PROVIDED, FINALLY, That at least one pilot project for rice and corn be established in one congressional district.

4. Out of the appropriation for supplies and materials, such amount as may be necessary shall be made available for the construction of floats and exhibits in connection with carnivals, expositions and civic parades.

5. Any provision of law to the contrary notwithstanding all amounts contributed by institutions both public and private in connection with the intensified food production program, money granted interest income from operations of the Agricultural Guarantee Loan Fund and donations from all sources accepted by the Secretary of Agriculture and Natural Resources and/or his duly authorized representatives shall automatically be made available for expenditures subject to the provision of Commonwealth Act No. 246, as amended, including the amount of P100,000 for the construction and improvement of Office Building in Agusan del Sur and to the conditions and stipulations mutually agreed upon in the grants and donations.

6. The Secretary of Agriculture and Natural Resources upon the recommendation of the Rice and Corn Production Coordinating Council is hereby authorized to change the designation of posbitions and to make changes in the assignment of personnel whose salaries are paid out of the appropriation for the rice and corn production program as the exigencies of the service may require; PROVIDED, HOWEVER, That such changes shall not constitute a demotion either in rank or salary nor result in a change of status and shall in all cases be subject to the approval of the Commissioner of Civil Service and the Commissioner of the Budget.

APPENDIX 6

COMPOSITION OF THE RICE AND CORN COORDINATING COUNCIL:

1. The Executive Secretary	- Action Officer
2. The Vice President and concurrently Secretary of Agriculture and Natural Resources	- Chairman and Coordinator
3. The Director of Plant Industry	- Vice Chairman & Vice Coordinator (1959-1969)
4. The Administrator, Agricultural Credit Administration	- Member
5. The Commissioner, Agricultural Productivity Commission	- Member
6. The Dean U.P. College of Agriculture	- Member
7. The Chairman-General Manager, Rice and Corn Administration	- Member
8. The Director Bureau of Soils	- Member
9. The Commissioner Budget Commission	- Member
10. The Administrator National Irrigation Administration	- Member
11. The Administrator Irrigation Service Unit	- Member
12. The Director Bureau of Agricultural Economics	- Member
13. The Chairman Presidential Arm on Community Development	- Member
14. The President Philippine National Bank	- Member
15. The Chairman Development Bank of the Philippines	- Member

16. The Governor — Member
Central Bank of
the Philippines

17. The Director — Member
Office of Statistical
Coordination

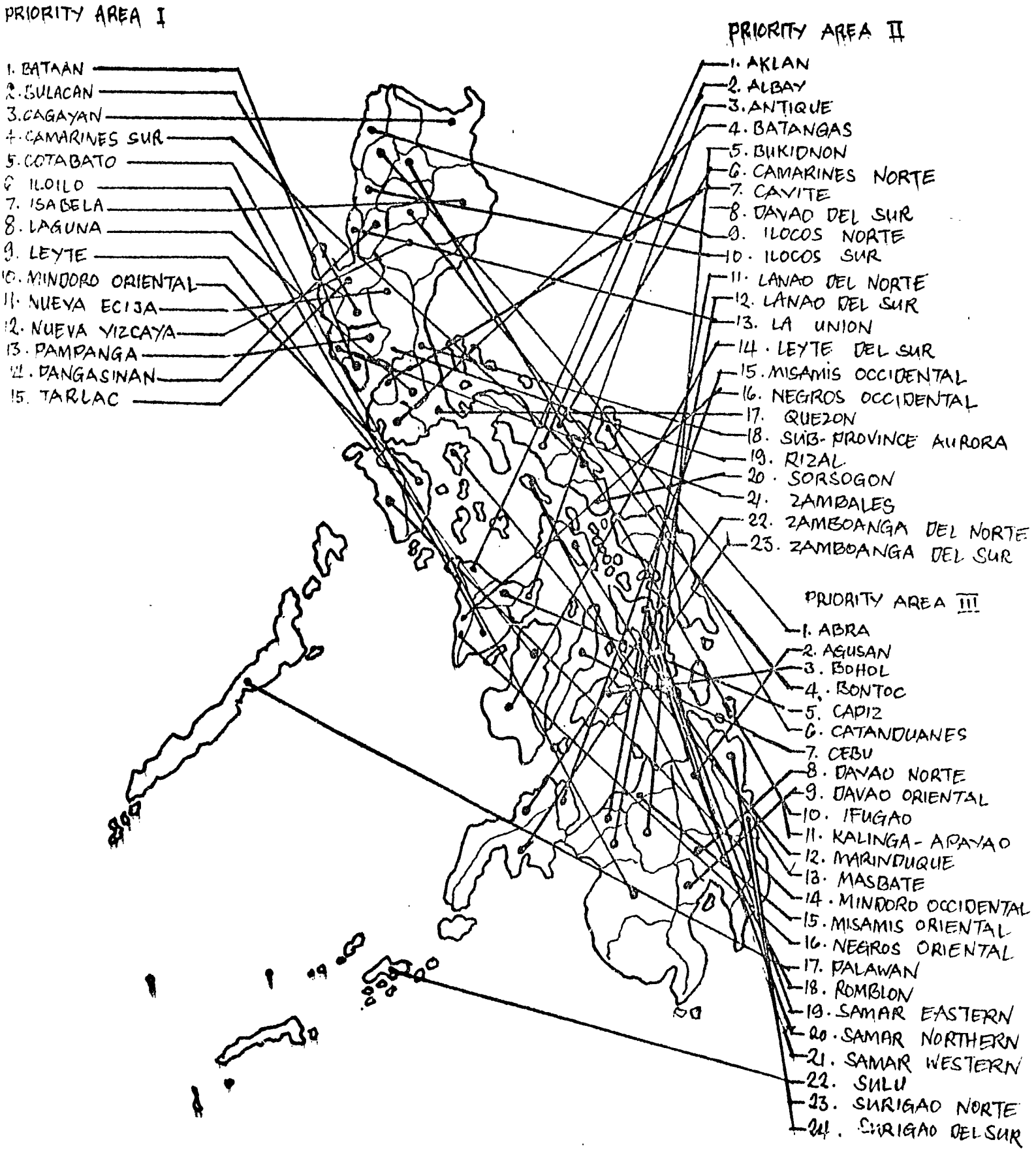
18. The Director — Member
Bureau of Vocational
Education

19. The Executive Director — Member
Rice and Corn Board

20. The Executive Director — Member
Rice and Corn Coordinating Council

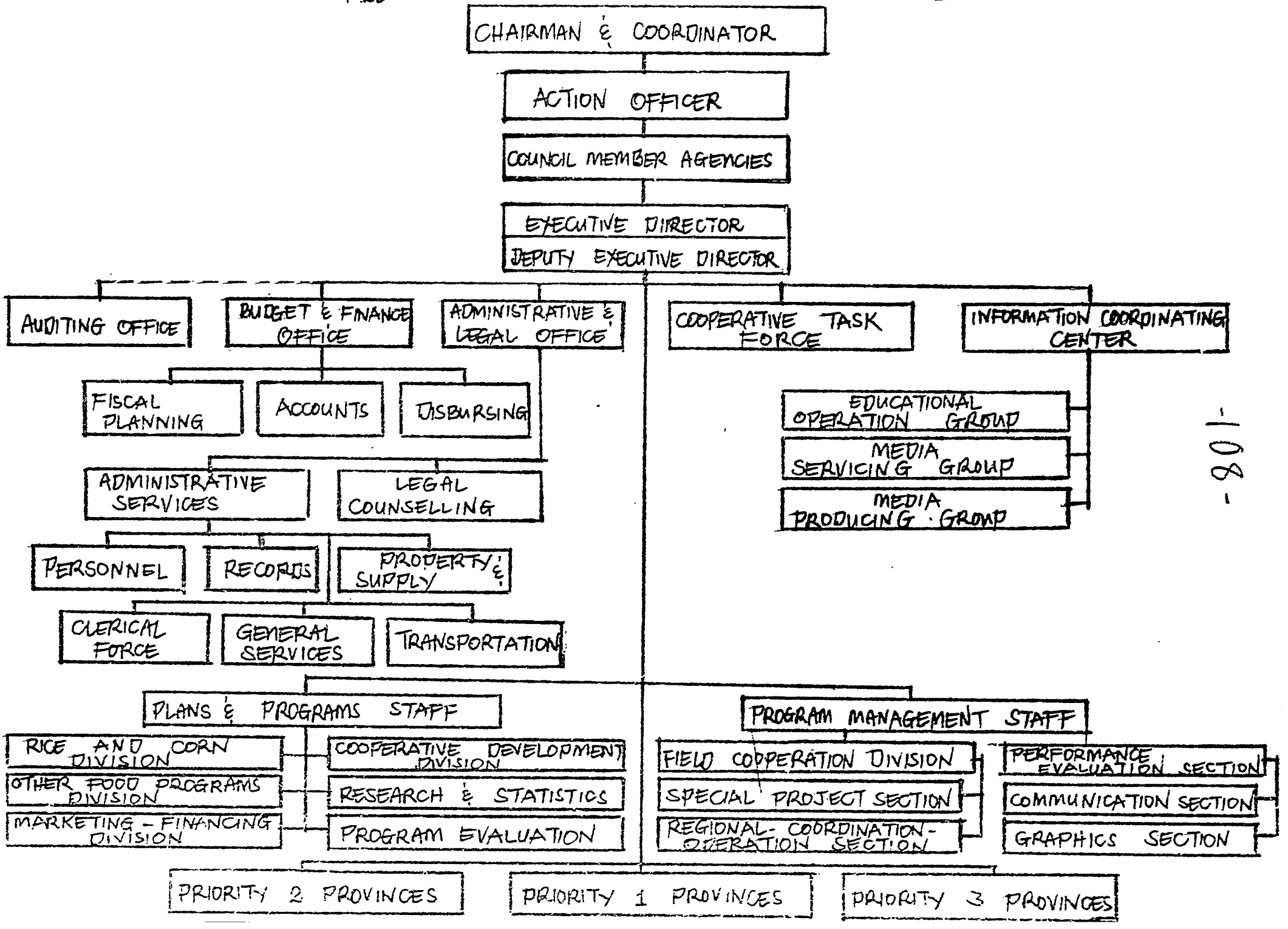
APPENDIX 7

RICE PRODUCTION PRIORITY AREAS



APPENDIX V

ORGANIZATION CHART
RICE AND CORN PRODUCTION COORDINATING COUNCIL



BIBLIOGRAPHY

Books

Allen, G.C. Japan's Economic Expansion. London: Oxford University Press, 1966.

Burkhead, Jesse. Government Budgeting. New York: John Wiley and Sons, Inc., 1967.

Black, C.E. The Dynamics of Modernization: A Study in Comparative History. New York: Harper & Row, Publishers, 1967.

Cutshall, Alden. The Philippines: Nation of Islands. Princeton, New Jersey: D. Van Nostrand Company, Inc., 1964.

Corpus, Onofre D. The Bureaucracy in the Philippines. Manila: University of the Philippines, Institute of Public Administration, U.P., 1957.

Garst, Jonathan. No Need For Hunger. New York: Random House, 1963.

Golay, Frank H. The Philippines: Public Policy and National Economic Development. Ithaca, New York: Cornell University Press, 1963.

_____, and Goodstein, Marvin E. Rice and People in 1990. Manila: U.S. AID, 1967.

Gross, Bertram M., ed. Action Under Planning: The Guidance of Economic Development. New York: McGraw-Hill Book Company, 1967.

_____. Organization and their Managing. New York: The Free Press, 1968.

Greenwood, William T. Management and Organizational Behabior Theories: An Interdisciplinary Approach. New Rochelle, New York: South-Western Publishing Company, 1965.

Hunt, Chester L. Social Aspects of Economic Development. New York: McGraw-Hill Book Company, 1968.

Hicks, Ursula K. Development Finance. New York: Oxford University Press, 1965.

Heady, Earl O. Economics of Agricultural Production and Resource Use. New Jersey: Prentice-Hall, Inc., 1961.

Ishikawa, Shigeru. Economic Development in Asian Perspective. Tokyo: Konkuniya Bookstore Co., Ltd., 1967.

Janda, Kenneth. Data Processing. Evanston: Northwestern University Press, 1965.

Kindleberger, Charles P. Economic Development. New York: McGraw-Hill Book Company, 1965.

Lewis, Arthur W. Development Planning: The Essentials of Economic Policy. London: Unwin University Books, 1966.

Litorer, Joseph A. The Analysis of Organizations. New York: John Wiley and Sons, Inc., 1967.

Meier, Gerald M. Leading Issues in Development Economics. New York: Oxford University Press, 1964.

Montgomery, John D. and Siffin, William, eds. Approaches to Development: Politics, Administration and Change. New York: McGraw-Hill Book Company, 1966.

OECD, The Food Problem of Developing Countries. Paris: 1967.

Pfiffner, John M. and Sherwood, Frank P. Administrative Organization. New Jersey: Prentice-Hall, Inc., 1960.

Penders, J.M.A. ed. Methods and Program Planning in Rural Extension. Wageningen, The Netherlands: H. Veenman and Zonen, n.d.

Samuelson, Paul A. Economics: An Introductory Analysis. New York: McGraw-Hill Book Company, 1967.

Sirkin, Gerald. The Visible Hand: The Fundamentals of Economic Planning. New York: McGraw-Hill Book Company, 1968.

Soberano, Jose D. and Waldby, H. Odell. Philippine Public Fiscal Administration. Manila: University of the Philippines, 1965.

Swerdlow, Irving, ed. Development Administration: Concepts and Problems. New York: Syracuse University Press, 1966.

Taro, Yamane. Statistics: An Introductory Analysis. New York and Tokyo: Harper and Row and John Waatherhill, Inc., 1959.

Theberge, James D. ed. Economics of Trade and Development. New York: John Wiley and Sons, Inc., 1968.

Waterston, Albert. Development Planning: Lessons of Experience. Baltimaore, Maryland: John Hopkins Press., 1968.

Weiner, Myron. ed. Modernization: The Dynamics of Growth. New York: Basic Books, Inc., 1966.

Westfall, Ralph. and Boyd, Harper W. Jr. Cases in Marketing Management. Illinois: Richard D. Irwin, Inc., 1961

Public Documents and Official Publications.

Agricultural Credit Administration. Annual Reports, 1965-66; 1966-67.

Bureau of Agricultural Economics. Philippine Agricultural Situation. VI (October-December, 1967)

Bureau of Plant Industry. Annual Reports, 1965-66; 1966-67; 1967-68; 1968-69.

Bureau of Soils. Annual Reports, 1967-68; 1968-69.

Gianzon, Emiliano P. and Tang, Fred. Final Report of the Binahaan-Tibak Rice Research, Demonstration, and Production Project. Bureau of Plant Industry, n.d.

Ianuza, Epitacio A. Philippine Country Report on Regional Plan Harmonization and Economic Cooperation. Bureau of Plant Industry, Manila: mimeographed, 1968.

Executive Order No. 183 (May 6, 1969)

National Economic Council. Office of Statistical Coordination and Standards. The Statistical Reporter: XIII, No. 2 (April-June, 1969); XIII, No.1 (January-March, 1969); XII, No. 2 (April-June, 1968); XII, No. 4 (October-December, 1968).

_____. Second Inter-Agency Committee Report on Rice and Corn Outlook of the Country for the Crop Year Ending June 30, 1967 Based on 1 October, 1966 Rice and Corn Production Forecasts.

_____. Final Inter-Agency Committee Report on Rice Production and Consumption for the Crop Year Ending June 30, 1968 and the Status from End of Crop Year to December, Based on Final Estimates of the Crop Year 1968 Production of rice.

_____, First Inter-Agency Committee Report on the Rice Outlook of the Country for the Crop Year Ending June 30, 1969 Based on January 1, 1969 Production Forecast.

_____. Inter-Agency Committee Report on the Rice Outlook of the Country for the Crop Year Ending June 30, 1970 Based on January 1, 1970 Production Forecast.

Rice and Corn Administration. Annual Reports, 1965-66: 1966-67; and 1967-68.

Rice and Corn Production Coordinating Council. Four-Year Rice Self-Sufficiency Program, 1967-70

_____. Annual Reports, 1965-66; 1966-67; 1967-68; 1968-69.

_____. Progress Reports for the Months of November, 1969; January and March, 1970.

_____. Expanded Corn Program (1968-70)

_____. Central Luzon Fish Hatchery Project, 1969.

_____. Fruits and Vegetable Production Program, 1968-72.

_____. Fish Production, 1968-75

_____. Expanded Animal Production Program, 1968-75.

_____. Feed Grains Program, 1969-70.

_____. Upper Pampanga River Project.

Reorganization Plan, No. 10, July 1, 1955

Drilon, Jose, Jr. "Rice Price Stabilization and the Rice and Corn Administration." Philippine Journal of Public Administration. IX, No. 1 (1967).

Irrigation Service Unit. Annual Reports, 1967-68, 1968-69.